

MARINE REVIEW.

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No. 11

Contraction of Insurance Facilities on the Lakes.

Insurance agents will probably be soliciting business within the coming week from lake vessel owners, and the subject of insurance is therefore being discussed just now with more interest than at any time since last spring, when methods adopted by the leading agencies brought them directly in touch with the vessel owner and prompted him to give careful study to this branch of his business. "It seems to me," said a Cleveland owner, referring to hull insurance, "that as our losses on the lakes are mainly due to bottom damages resulting from stranding in the rivers and from collisions, there is not the demand here for the kind of close inspection in the construction of vessels that exists with ocean-going craft. Regulations governing river navigation, and safeguards of various kinds relating to the prevention of collisions, are gradually reducing losses from this source. We lost a couple of steel steamers that were said to be structurally weak, but the lesson taught by these losses was valuable, and it is certain that no lake captain will ever again be found pushing his ship into a head sea, with her stern deep in the water and nearly half her length forward exposed to the pounding effect of the bow striking downward on big waves. No more ships will be lost on account of this method of making fast trips when running light. Water ballast tanks, both forward and aft, will be filled at all times when the weather is such as to endanger a vessel running light. It would seem, therefore, that if we can prove to the underwriters by a summary of previous losses that we are not disposed to load deeper than will be permitted by the stage of water in connecting channels, we will be accomplishing more than is involved in the question of the structural qualities of one steel vessel as against another. I do not mean to overlook entirely the numerous other causes to which losses are attributed, but I am certainly of the opinion that this question of bottom damages caused by strandings is of most importance."

The argument submitted in the foregoing interview was brought to the attention of an insurance agent on the lakes who is in a position to be fully acquainted with the views of underwriters in both this country and England regarding the lake business. "Let us pass over," he says, "the argument that is made against the need of a classification register showing the relative value of different steel vessels from an insurance standpoint and turn to the question of premium rates. It will probably be said that at this time of year the vessel owner is always confronted with the old story of higher premiums being demanded, but upon getting ready to place his business he finds that competition brings an actual reduction in rates. This has been true, especially for two or three years past, but there will be a day of reckoning unless the vessel owner himself assists, not only in encouraging a proper classification of vessels, but also economical methods in all branches of the business, and an adjustment of losses fair to the underwriter and owner. We must adopt the best methods that govern marine insurance in other parts of the world, and I have no doubt that the beginning made in this direction last year will be carried out though the honesty of lake vessel owners, and also in view of the fact that they will realize the dangerous lines into which we have been drifting regarding insurance assets for hull business on the lakes."

"Let us contrast the companies now represented on the lakes for the insurance of hulls with what was available some time ago, and we will find that there is occasion for serious thought regarding the complaint that comes from England about the disastrous results of rate cutting. We will find also that the situation should prompt vessels owners to support every effort that is being made to class vessels so as to properly apportion premiums according to the risk involved, and settle losses with entire fairness to both the insurer and the insured. A few years ago practically all of the great marine insurance corporations of England and America were in active competition for the insurance of hulls. We find upon examining old insurance lists such names as the British & Foreign Marine Insurance Co., London Assurance Commercial Union, Marine Insurance Company of London, Sea of Liverpool, Standard of Liverpool, Reliance of Liverpool, Union Marine of Liverpool, Union of Liverpool, Thames & Mersey of Liverpool, Phoenix of Brooklyn, Boston Marine and Shoe & Leather of Boston, Security of New York, Anglo-Nevada and Sun of San Francisco, Orient of Hartford, Liberty of New York, Delaware Mutual of Philadelphia, China Mutual of Baltimore, Boylston Insurance Co., Union of Philadelphia, Continental of New York, and several others that cannot now be recalled. All of these large and powerful corporations have withdrawn from the insurance of hulls, and the inference is that their experience has been such as to render the lake business unattractive to them. They are still in active competition for the marine insurance business of the world and represent the largest and most active available facilities for all kinds of marine insurance. The only real deduction that can be made from their withdrawal was that rates were insufficient, and especially so under past methods of conducting the business. Complaint was made some time ago on the score that it was impossible to ascertain with any degree of exactness the relative values of ships, because of the absence of proper methods of survey and construction. This argument regarding the difficulty of selecting good risks is being gradually overcome by the societies of inspection and it must be fully settled. The question of a sufficient rate must also be considered by the vessel owners themselves in the light of this loss of available insurance assets. The Chicago syndicate last year had a combination of American and English companies that was quite strong, but there were a great many companies in the lake business that are not to be compared with those of a few years ago. Many of them had never been engaged in marine insurance here until last year, and others were small fire companies. It is certainly strange that although the capacity and value of the lake fleet has increased enormously, we should have this decrease in insurance facilities. When vessels were smaller and when the needs for insurance were much smaller

than they are at present, we had, coming and going, the long list of strong insurance companies to which I have referred. A glance at this list will show that at least \$100,000,000 of sound insurance assets were available for a small demand, whereas with the increased demand the corporations represented upon the lakes for the insurance of hulls show a largely diminished aggregation of assets.

Of Interest in Connection with Freights.

When the Rockefeller and Carnegie interests were making a settlement of lake freights last fall, Mr. F. T. Gates, representing the Rockefeller interest, secured from all sales agents of Cleveland who move ore from the head of the lakes—Duluth, Two Harbors and Ashland—a statement of tonnage and the average lake freight paid in each case. From this summary the average rate on all ore moved from the head of Lake Superior was readily secured. It was found to be within a fraction of 64 cents. Some of this ore was covered by 70-cent contracts, but a large part of it was moved during summer months on single-trip charters ranging as low as 50 cents. It was this average that prompted the 65-cent rate in contracts for the coming season made by the Carnegie company several days ago. Now there are rumors that a part of the 1893 business closed thus far has been at 60 cents, or a rate between that figure and 65 cents. It is also said that the ore shippers have propositions from vessel owners offering to accept ore at 60 cents to Oct. 1. However this may be, it is certain that vessel owners in all parts of the lakes are declaring very positively that they will take chances on trip-to-trip charters rather than accept less than 65 cents for the full season, and it is the general opinion, even among the ore shippers, that if the freight question is not hurried by the vessel owners themselves, there will be considerable season ore to be had within the next few weeks at 65 cents. This rate, to say the least, is decidedly fair to the ore shipper, in view of the average on last year's business, when so much ore was moved during summer months at 50 cents. It is fair also from the standpoint that not all of the advance in prices of ore will go to mining labor, and the ore dealer has just secured another slight advantage in a reduction of rail freights on some of the lines operating between mines and lake ports. Ore is selling very freely. The Illinois Steel Co. is now closing up arrangements for about 1,500,000 tons of old range Bessemer ores which they will require, in addition to about 1,000,000 tons of Mesabi's on which they have a close alliance with the Minnesota Iron Co. Sales to several large furnace interests in the Mahoning valley have also been made within the past few days. Assurance of the formation of an association among pig iron manufacturers of the Mahoning valley and Cleveland to regulate output and maintain a minimum price on Bessemer pig—\$10 a ton for the present—is another indication of strength in the iron industry. There has been no backward step in the improvement that began some time ago. If less than 65 cents as a season freight from the head of the lakes is accepted by vessel owners, they will be at fault on their own account, as it would seem now that there will be enough ore left, after the ship capacity of the ore companies is filled up, to provide for such other vessels as may be available at that rate. A committee of the Lake Carriers' Association has asked managers of ore docks to reduce the unloading charge from 14 to 13 cents, but the chances are against a reduction, as the dock companies claim they will have difficulty in keeping labor enough employed at last season's wages.

Shippers of soft coal are still expecting a strike of miners April 1, not only in the Hocking valley district but also in West Virginia, where labor leaders have been actively at work with the miners. This renders the coal situation uncertain at the opening of another season. An effort is being made to get vessels to load before April 1, so as to insure an accumulation of coal, but the rates offered are only 30 cents to Lake Michigan and 25 cents to Lake Superior. This does not warrant shifting of vessels. It is said that a few whalebacks now being loaded are to be paid 30 cents on coal to go to the head of Lake Superior.

Letters from Duluth regarding the stage of water report a fall of nearly a foot compared with last spring, but a telegram from the canal office at Sault Ste. Marie says that in January the water was only 3 inches lower than in January, 1897, and in February only 1 inch lower than in February, 1897. At the Lime-Kilns, Detroit river, the stage of water is practically the same as at this time last year. Advices from Ashtabula and other Lake Erie ports also report about the same stage of water.

The Lumber Carriers' Association has published a pamphlet showing signatures to their scheme of minimum freights representing vessels of about 62,000 tons in the aggregate, and the executive committee is more hopeful of success than at any time since the Detroit meeting.

A great deal of fuss is being made in Buffalo about meetings of grain shovellers' unions and the action of Contractor Kennedy regarding the steam shovels. Mr. Kennedy has a lease of most of the steam shovels until April 17 next, as his contracts were made on that date a year ago. He is trying to worry the vessel owners and the new contractor, W. J. Connors, on the strength of the unexpired part of this lease, but it would certainly seem that he is making a mistake if he ever intends to seek business of any kind from vessel owners of the lakes in the future. Mr. Connors has signed the contract, made up a few days ago with representatives of the vessel owners, and has pursued a course entirely satisfactory to them since the Detroit meeting. There are strong men back of this movement among the vessel owners and they have every confidence in Mr. Connors' ability to deal with the elevator managers and with the labor question. The vessel owners pay for the shoveling; they have the business, and they will be found supporting to the end the agreement that was made at Detroit with Mr. Connors, unless he makes some serious mistake, which he has not done as yet.



SUPPLEMENT TO MARINE REVIEW, CLEVELAND, O VOL. 17, No. 6, FEB. 10, 1908.

DIMENSIONS OF DOCK:

500 feet over all,
545 " on blocks,
61 " width of gate,
17 " depth over sill

THE LONGEST LAKE STEAMER
(THE CLEVELAND SHIP BUILDING



IN THE LARGEST LAKE DRY DOCK.
(THE CLEVELAND SHIP BUILDING COMPANY'S NEW DOCK AT LORAIN, O.)

DIMENSIONS OF STEAMER:

434 feet over all,
414 " keel,
45 1/4 " beam,
28 " depth.

OUR NEW BATTLESHIPS.

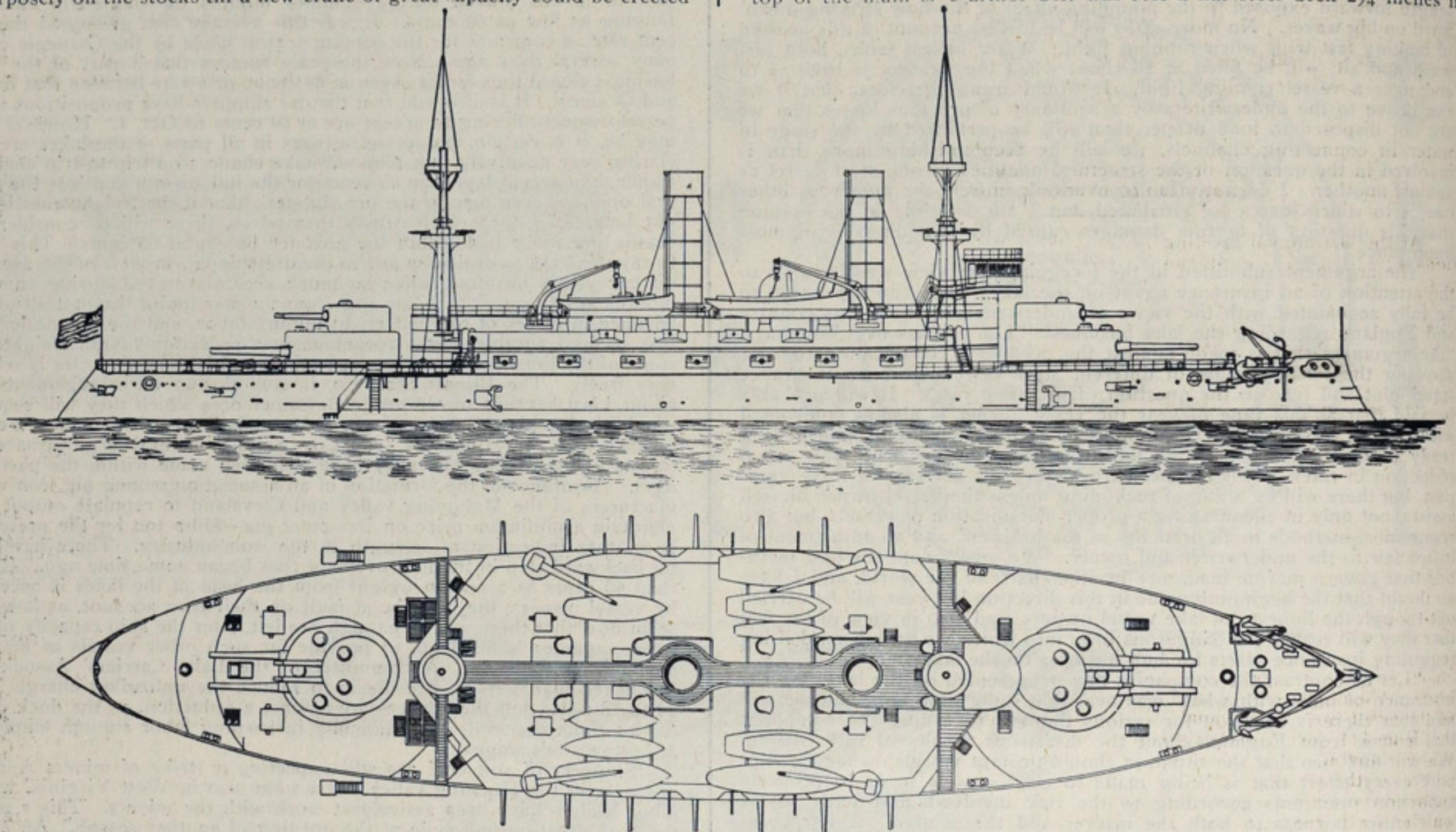
THERE ARE FIVE OF THEM BUILDING--DESCRIPTION OF THE KEARSARGE AND KENTUCKY, TO BE LAUNCHED AT NEWPORT NEWS ON THE 24TH INST.

Just now the people of this country are very much interested in battleships, and especially the twin vessels, Kearsarge and Kentucky, that are to be launched at the works of the Newport News Ship Building & Dry Dock Co., Newport News, Va., on Thursday, the 24th inst. The United States now has five armored battleships—Indiana, Iowa, Massachusetts, Oregon and Texas—and two armored cruisers, Brooklyn and New York. There are under construction five other battleships—Kearsarge, Kentucky, Illinois, Alabama and Wisconsin—all of full 11,000 tons displacement. The Kearsarge, Kentucky and Illinois are building at the Newport News works, the Alabama at the work of the Cramps, Philadelphia, and the Wisconsin at the Union Iron Works, San Francisco. Only the two first named of the new ships, the Kearsarge and Kentucky, have as yet reached the launching stage. They are more than half complete, but on the others little more than 40 per cent. of the work has been finished.

By dint of industry unparalleled in this country, the Newport News company will launch the finest of these ships, the Kearsarge and Kentucky, on the 24th of the present month, not quite twenty months from the day the keels were laid. These ships could have been launched two months ago, but to facilitate their final completion, they have been kept purposely on the stocks till a new crane of great capacity could be erected

plete armor protection from a distance of 4 feet below the water line to the top of the 8-inch turrets. This armor, as well as all other armor used on the vessels, will be of solid nickel steel, Harveyized. The lower part of the protection—the barbettes, so called—will have armor 15 inches in thickness. The armor of the 13-inch turrets will also be 15 inches, except immediately in front, where it will be made 17 inches. The armor protecting the 8-inch guns will be 9 inches, but that also will be made 2 inches heavier immediately in front. In addition to these heavy guns a battery of fourteen 5-inch rapid fire guns will be mounted on the main deck between the turrets and will be protected by continuous armor 6 inches thick, a splinter bulkhead 2 inches thick being worked between each gun station. A numerous battery of smaller 6-pounder and 1-pounder guns will be carried, such guns being placed wherever they can fire to advantage.

Protection of the hull against injury to the water line region will be effected by means of a side armor belt of a maximum thickness of 16½ inches, with a mean depth of 7½ feet, so disposed in reference to the load line that the vessel, with 410 tons of coal on board, will have 3½ feet of this belt armor above the water, and with 1,210 tons of coal on board will have 2 feet above the load line. The belt will extend from the stem to the after barbettes, and will maintain the maximum thickness from the after end of the belt to the forward boiler-room bulkhead, whence it will taper gradually to a thickness of 4 inches at the bow. Protection will be afforded above the main side armor by a steel belt 5 inches thick, extending up to the level of the main deck and running in a fore-and-aft direction from the center of the forward to the center of the after barbettes. On top of the main side armor belt will rest a flat steel deck 2¾ inches in



PLANS OF NEW UNITED STATES BATTLESHIPS KEARSARGE AND KENTUCKY.

to handle the armor and other heavy weights yet to go in the vessels. The launching of two ships of such magnitude on the same day is an important event. They are the heaviest vessels ever moved from keel blocks in this country, as they will each weigh about 5,000 tons.

These vessels were provided for by act of congress approved March 2, 1895, limiting their individual costs, exclusive of armament, to \$4,000,000. On the 2d of the following January the contract for their construction was awarded to the Newport News company for the remarkably reasonable individual contract price of only \$2,250,000, and that, too, without the usual inducement of a bonus for excess of speed. A penalty of \$100,000 a knot will be imposed for failure to reach the contract speed of 16 knots. General dimensions and features of the Kearsarge and Kentucky, as designed, are as follows:

Length on load water line.....	368 feet.
Beam, extreme	72 feet, 2.5 inches.
Freeboard, forward	14 feet, 3 inches.
Freeboard, aft	12 feet, 3 inches.
Mean draught, with 410 tons of coal on board.....	23 feet, 6 inches.
Corresponding displacement.....	11,525 tons.
Speed in knots, per hour.....	16.
Indicated horse power.....	10,000.
Normal coal supply.....	410 tons.
Bunker capacity, coal untrimmed.....	1,210 tons.

The power to meet an enemy will be centered effectively in the twenty-two guns forming the main and auxiliary batteries, and these will consist of four 13-inch and four 8-inch breech-loading rifles and fourteen 5-inch rapid fire rifles. The secondary battery will consist of twenty 6-pounder and six 1-pounder rapid fire guns, with four machine guns.

There will be four torpedo tubes—two on either broadside. The naval bureau of construction and repair paid especial attention, in preparing the designs for these ships, that their gun positions should have com-

thickness; and forward and abaft the machinery and boiler spaces the deck will be inclined at the sides and the thickness on the slopes increased to 3 and 5 inches. To further protect the vessel against raking fire, athwartship bulkheads of armor 10 and 12 inches thick will be worked at the points where the deck is worked with inclined sides.

In addition to the armor belts, cofferdams filled with compressed, fire-proofed, American corn-pith cellulose will be worked the entire length of the vessel in the region of the water line. The conning tower will have armor 10 inches in thickness with a tube 7 inches in thickness leading down to the armor deck for the protection of the voice pipes, telegraphs, steering rods, etc. Throughout the vessels the use of wood is reduced to a minimum. The stateroom bulkheads will be made of steel covered with cork sheathing, and every attention will be given to lighting, heating, draining and ventilating the vessels in the most approved and efficient manner. All wood materials of every description will be tested by the electric fire-proofing process. As these ships will undoubtedly be flagships, their complements will be 520 persons—officers, seamen and marines.

The vessels will be driven by triple expansion engines actuating twin screws, each screw being propelled by a single engine having cylinders of 33½, 51 and 78 inches diameter, with a common stroke of 48 inches, indicating, together with the engines for the air and circulating pumps, a collective horse power of 10,000 when making about 120 revolutions a minute. Five boilers—three double-ended and two single-ended—in four water-tight compartments, will generate the necessary steam at a pressure of 180 pounds to the square inch.

A comparison of these vessels with any foreign battleships built or building, will, in every case, be to the advantage of the United States ships. The United States vessels carry heavier guns and more of them; heavier armor, more widely distributed and protecting more thoroughly the vitals of the ship and gun crews. Their normal speed of 16 knots

will be less on paper than that of most foreign battleships, but it should be noted that this speed will be obtained with a very moderate forced draught and without unduly pushing the engines, so that it may be expected that at any time this speed can be duplicated by our vessels, while it is notorious that foreign battleships never again approach their trial speeds. The United States has never fallen into this error as regards its battleships, and in every case has required that the maximum contract speeds should be obtained under conditions which could be reproduced again at any time upon a well-drilled ship. As illustrative of this fact it may be noted that the Indiana upon her trial trip, even after she had been in the water for over a year and probably lost a half-knot of speed through the roughness of her bottom, due to the accumulation of marine growth, still made over 15½ knots upon trial, the contract requirement being 15 only. The Indiana and class are then really 16-knot ships, and the Kearsarge and the Kentucky, having about the same extreme speed, will be able to manoeuvre in company with the Indiana class very satisfactorily.

These vessels will be able to carry their full supply of coal—1,210 tons—with the greatest ease, their bunker space being so ample that this quantity may be carried without trimming or packing. This amount will be ample for the ordinary contingencies of cruising and for service in time of war along our coast, as, at cruising speed of 10 knots, it will be sufficient to enable the vessels to steam over 6,000 miles, and at 13 knots nearly 4,000 miles. In case the services of these battleships were needed at a distance, however, temporary provision could be made by which 400 or 500 tons extra coal could be carried, with corresponding increase in the radius of action.

The Kearsarge will be christened by Mrs. Winslow, the wife of Lieutenant-Commander Winslow, son of the officer commanding the old Kearsarge in her memorable fight. The Kentucky will be christened by Miss Bradley, daughter of the governor of the state of Kentucky.

ST. MARY'S RIVER RULES.

FULL TEXT OF THE NEW REGULATIONS AS PREPARED BY THE TREASURY DEPARTMENT, IN ACCORDANCE WITH RECOMMENDATIONS OF THE LAKE CARRIERS' ASSOCIATION.

At the last annual meeting of the Lake Carriers' Association resolutions were adopted recommending that the speed limit in St. Mary's river rules be increased from 7 to 9 miles, and that in some respects further liberty be given for the passage of vessels in the river. Capt. A. B. Davis of the revenue cutter service now submits the following amended rules, which will receive the approval of the secretary of the treasury in a few days:

Rule I.—No vessel ascending or descending the St. Mary's river shall proceed at a greater speed than 9 statute miles per hour over the ground between the turning channel gas buoy in the northern part of Mud lake and the northern float lights in Hay lake of the 20-foot channel leading from Neebish channel; nor between the crib light in upper Hay lake at the entrance of the 20-foot channel of the Frechette and Little Rapids cut and the government pier at Sault Ste. Marie; nor between the western end of the Sault Ste. Marie canal pier and Point aux Pins light-house.

Rule II.—No vessel shall pass or approach another vessel moving in the same direction nearer than a quarter of a mile between Evers point and the northern end of the Dark Hole; nor between the first black spar buoy south of the gas buoy in the northern part of Little Mud lake and the northern float lights in lower Hay lake of the 20-foot channel leading from Neebish channel; nor between the southern entrance of the 20-foot channel of the Frechette and Little Rapids cut and the crib light at the northern entrance of the Little Rapids cut; nor between the western end of the Sault Ste. Marie canal piers and Big point.

Rule III.—All vessels navigating the St. Mary's river may pass other vessels moving in the same direction between the turning channel buoy in the northern part of Mud lake and Evers point; in Little Mud lake between the northern part of the Dark Hole and the first black spar buoy on the south of the gas buoy in the northern part of Little Mud lake; between the crib light-house at the northern entrance of Little Rapids cut and the government pier at Sault Ste. Marie; and between Big point and the light-house at Point aux Pins. No vessel passing another vessel shall move at a rate of speed greater than 9 statute miles per hour over the ground.

Rule IV.—All vessels navigating the St. Mary's river may proceed at full speed and pass other vessels moving in the same direction between Point Detour and the turning channel buoy in the northern part of Mud lake; between the northern float lights of the 20-foot channel leading from the Neebish channel into Hay lake and the crib light at the entrance of Frechette and Little Rapids cut. Special attention is called to rule 24 of the act of congress approved Feb. 18, 1895, giving right of way to descending vessels in the St. Mary's river.

Rule V.—In case one steamer desires to pass another going in the same direction on said river, at a point where such passing is permitted by these rules, the pilot of the steamer astern shall, if he intends to pass the steamer ahead on the right hand or starboard side, indicate such intention by giving one short blast of the steam whistle, and if he intends to pass such steamer ahead on the left hand or port side, he shall indicate such intention by giving two short blasts of the steam whistle. Upon the pilot of one steamer astern of another giving such signal, the pilot of the steamer ahead shall immediately answer by giving the same signal; but if he does not think it safe for the steamer astern to attempt to pass at that point, he shall immediately signify the same by giving several short and rapid blasts of the steam whistle; and under no circumstances shall the steamer astern attempt to pass the steamer ahead until such time as they have reached a point where it can be safely done, when said steamer ahead shall signify her willingness by blowing the proper signals; then the steamer ahead shall slacken to a slow rate of speed, and the steamer astern shall pass the overtaken steamer, giving the overtaken steamer as wide a berth as possible. Steamers bound in opposite directions shall slow to half speed within one quarter of a mile of each other until each has passed the other.

Rule VI.—The patrolling vessels of the revenue cutters service shall

always have the right of way over all other vessels, as indicated by the sailing signals given by any such patrolling vessel.

Rule VII.—Three distinct blasts of the steam whistle, when sounded from a patrolling vessel, will indicate that the vessel to which such signal is given is proceeding at too high a rate of speed, and such vessel must immediately moderate her speed accordingly.

Rule VIII.—Three long blasts of the steam whistle, followed by one short blast, when sounded from a patrolling vessel, will indicate that the vessel to which such signal is given must stop until further orders from the patrolling vessel.

Rule IX.—Two red lanterns, one above the other, hoisted on a patrolling vessel at night, will indicate to the vessel to which such signal is given that such vessel must stop and not proceed farther toward the position where such lights are displayed.

Rule X.—No vessel or raft shall anchor in any of the improved channels now abreast of the government piers at Sault Ste. Marie, except in distress or during a fog, and any vessel so anchored must always shift her anchorage when so directed by the officer in charge of a patrolling vessel, to the spot designated by such officer.

Rule XI.—Vessels navigating the St. Mary's river may anchor between Point Detour and Mud lake turning buoy, and at Sailor's Encampment close to the wharves of the saw mill; in Hay lake between the Neebish and Little Rapids channel, outside of the channel, as indicated by the ranges, but nothing in this rule shall be construed to prohibit any vessel from lying alongside of any wharf in said river.

Rule XII.—Rafts being towed in the St. Mary's river will be required to use what is termed the "old channel." From Harwood point to Mud lake turning buoy they will move at the time designated by the officer in charge of the patrolling vessel. When lying by they must be moored out of the channel.

Rule XIII.—In navigating the St. Mary's river, in all cases where the foregoing rules are not applicable, the attention of masters and pilots is called to the sailing rules contained in the act of congress of Feb. 18, 1895.

Rule XIV.—All vessels navigating the St. Mary's river, in passing dredges and vessels at work on improvements to the channel, will be required to slacken their speed upon such dredge or other vessels engaged in such improvement giving the signal of three distinct blasts of the steam whistle.

Rule XV.—The pilot of every steamer descending the St. Mary's river shall, when abreast of the black buoy at Rains shoal, and before passing around the bend of said river at Sailors' Encampment, give a signal of one blast of the steam whistle of 10 seconds duration, which signal shall be answered by a blast of the steam whistle of the same duration by any vessel ascending said river within hearing. The pilot of every steamer ascending said river, not having heard such signal from a descending steamer, shall, when abreast of Evers point, and before passing around the bend of said river at Sailors' Encampment, give a signal of one blast of the steam whistle of 10 seconds duration, which shall be answered by a blast of the steam whistle of the same duration by any vessel descending said river within hearing. After such signal of one blast of the steam whistle of 10 seconds duration shall have been given and answered, the usual passing signal must be given.

Rule XVI.—Any steamer approaching a tug towing a dredge or scow moving in the same direction may pass such tow by giving the proper signal indicating upon which side of such tow such steamer will pass, and it shall be the duty of the pilot of any such tug to sheer on the side of the channel indicated by such passing signal and give the passing steamer all possible room.

SIGNAL AT JOHNSON POINT.

Whenever a steamer bound down the St. Mary's river in the daytime enters the Dark Hole, a white ball will be displayed on a pole at Johnson's point, Sailors' Encampment, in said river, until the steamer is abreast of Johnson's point, and whenever a steamer having a vessel or vessels in tow bound down in the daytime enters the Dark Hole, a red ball will be displayed under the white ball on the pole until such steamer is abreast of said point. Whenever a steamer bound down said river at night enters the Dark Hole, a white light over a red light will be displayed on said pole; and whenever a steamer bound down said river at night having a vessel or vessels in tow enters the Dark Hole, a white light with two red lights under it will be displayed on said pole. No flags or lanterns, however, will be displayed for tug boats without tows or for small boats.

SCHEDULE OF TIME TO BE RUN IN CERTAIN PARTS OF THE RIVER.

For the facilitation of speed calculations in connection with the St. Mary's river rules, the department publishes the following schedule of distances between certain points along the river, together with the time required to run those distances at a speed of 9 miles an hour:

Sections.	Distance in statute miles.	Time in minutes.
Mud lake buoy to Evers point.....	2½	17½
Evers point to Encampment crib light.....	¾	5
Encampment crib light to Dark Hole turn.....	1½	11
Dark Hole turn to Harwood point turn.....	3¼	21 2-3
Harwood point turn to junction buoy, Hay lake.....	3¼	21 2-3
Junction buoy to upper lights, lower cut.....	2¾	18 1-3
Lower cut to Frechette cut.....	Full speed.	
Lower range, Frechette cut to red can buoy.....	1½	10
Red can buoy to lower light, Little Rapids.....	1½	10
Lower light to north entrance light-house.....	1½	10
North entrance light-house to government pier.....	1½	11
West end of piers to Big point.....	2¼	15
Big point to Point aux Pins light-house.....	3¼	21 2-3
Through the dike.....	1½	7½
Through the island cut.....	1½	7½

Capt. A. B. Davis, R. C. S., commanding U. S. S. Gresham, will, until otherwise ordered, have supervision of the enforcement of the foregoing rules and regulations, and all complaints or appeals arising under them will be made by parties concerned to that officer.

Insurance Matters—Great Lakes Register.

[EDITORIAL CORRESPONDENCE.]

Chicago, March 16.—As most of the old line of general agents are holding meetings in Buffalo this week, with a hope of making some arrangements for insurance during the coming season, this subject will be the next to demand the attention of vessel owners. There has been nothing definite regarding rates thus far, and no hint of what may result from the Buffalo meetings, except that the struggle for business on the part of the general agents and the Johnson & Higgins interest will again be directed against the McCurdy-Prime syndicate, which managed, through an early adjustment of its affairs, to come in and secure a large share of the business last season. When I sought information regarding probable rates from Messrs. Prime and McCurdy, whom I met here early in the week, I was not favored with details, but was informed that they were entirely prepared for another season, with all the connections of a year ago. But they did not think it advisable, they said, to solicit business in advance of preparations on the part of vessel owners to place their insurance. It was learned that work on the Great Lakes Register has progressed to a point that will permit of printing, within the next few weeks, all rules, tables and drawings relating to steel and wooden vessels. Everything pertaining to the register was opened up for inspection in the office of Capt. F. D. Herriman, surveyor general, and the work is certainly equal to the best efforts of any of the great classification societies of the world. When these rules are printed, the ship builders and ship owners, who will be given early opportunity to examine them, will readily understand why so much time has been spent on their preparation. They are exhaustive in detail and represent a labor fully equal to that involved in the classification of some 2,500 lake ships, which will be contained in the completed work. Pages of the register will be large, probably 11 by 9 inches, and about 150 of them will be devoted entirely to the rules, which will include some seventy pages of print, fifty pages of tables and twenty or more pages of drawings descriptive of various ship sections, parts of machinery, etc.

Capt. Herriman and Mr. Prime had but recently returned from England and France, where they completed arrangements—first advising with their principals in England—for the amalgamation of the Great Lakes Register with the Bureau Veritas International Register Shipping. This action, although nothing has been said about it up to this time, has been one of the plans of the originators of the register scheme. They have sought this alliance on account of its great value with insurance companies throughout the world, who look to two registers, Lloyds and the Bureau Veritas, as the standards of ship classification. The alliance with the French society is supplemented by an arrangement in England with well-known naval architects and marine engineers, who are to act as an advisory board. Directors of the French society, who commissioned Capt. Herriman to come to the lakes as their representative a few years ago, gave unqualified endorsement to the rules, all of which were submitted to them just as they are to be printed in a few weeks. The agreement with them is such that they are to be consulted in all matters pertaining to rules and other features of the lake publication and are to accept for the Bureau Veritas all ships classed in the Great Lakes Register. This alliance will extend to the classification of lake ships that may, upon the completion of the Canadian canals or any other outlet to the seaboard, extend their operations to the seaboard, or even to crossing the Atlantic. As the society publishing Lloyd's Register has as yet taken no action on inquiry made some time ago regarding the classification of lake ships, it is not at all probable that they will now do so, and this will make the arrangement with the French society all the more valuable in dealings with foreign underwriters.

"It is our intention," Mr. McCurdy said, "to continue and even extend the work we have undertaken with ship masters and with departments of the government for the purpose of lessening, as far as possible, the number of accidents to lake vessels, and especially the losses due to strandings. We have no thought of interfering with affairs of the Lake Carriers' Association. On the contrary, our aim is to act in conjunction with that body and with the vessel owners generally. We may sometimes move in these matters in advance of the association of vessel owners, as with us dollars and cents are directly involved, and a great saving may often be made by acting before committees of vessel owners can be gotten together, but when this is the case we will try at all times to have our views accord with what is desired for the best interest of all concerned. We now have in preparation a small publication of pocket size, to be neatly printed and bound, which will be distributed generally among the ship masters, and which we hope to have accepted by them as a sort of text book."

The small book to which Mr. McCurdy refers will undoubtedly prove valuable to the captains. Following is a summary of its contents:

1. Index.
2. Introductory note (explaining position and aims of the Great Lakes Register).

PART I.

1. The statutory rules and regulations.
2. Pilot or supervisors' rules.
3. St. Mary's river special rules.
4. Canal rules—St. Mary's, American and Canadian.
St. Clair Flats.
Welland canal.

5. Special harbor of refuge regulations.
6. Special rules for particular harbors.

PART II.

Information as to the compass.

PART III.

1. Powers and duties of officers in event of disaster.
 - (a) Requirements as to report to inspectors.
 - (b) Requirements as to report to customs department.
2. Investigations and examinations of licensed officers before inspectors.
 - (a) Statutory authority of inspectors.
 - (b) Rules under which they must act.
 - (c) Rights of licensed officers being so tried.
 - (d) Proceeding on and right to appeal.

PART IV.

The special requirements for passenger steamers.

Buffalo's Enlarged Dry Dock.

A view of the enlarged dock of the Union Dry Dock Co. at Buffalo, presented herewith, was made from a photograph that was taken in advance of completion of the dock. The steamer in the dock is the S. S.



Curry of Cleveland. It was necessary, on account of the pressure of repair work at Buffalo, to put the Curry into the dock before it was completed, but the work was far enough along to do this with safety. The Curry is not a small boat, but it will be noted from the picture that there is considerable room to spare in the enlarged dock with a vessel of her size.

Around the Lakes.

C. R. Jones of Cleveland has the sympathy of vessel owners in the loss of his wife, whose death was announced Tuesday. Mrs. Jones was an estimable young woman, and it is especially unfortunate that three children are all of tender age.

General repairs are being made on the steamers Point Abino and T. R. Scott at Marysville. The propeller J. E. Mills and barge Leader, wintering at that point, will require docking, as the breaking of the ice recently caused a jam in which they were injured.

Two tugs are kept busy at West Superior keeping the dry dock entrance clear of ice so as to hurry repairs on steel vessels wintering at the head of Lake Superior. The steamer Victory, now in dock, will receive two new bottom plates, and ten other plates will be taken off, rolled and replaced, together with a like number of futtock plates and futtock angles.

John C. Fitzpatrick, formerly of Cleveland, but who has been a resident of Buffalo since the establishment of the Cleveland & Buffalo steamship line, has just been appointed Buffalo agent for the Clover Leaf line, which is the lake connection between Toledo and Buffalo of the Toledo, St. Louis & Kansas City Ry. Mr. Fitzpatrick succeeds H. E. Hyde, resigned.

Lieut. Geo. H. Stafford, who has been called with many other naval officers to sea duty on account of the Cuban troubles, left the Cleveland branch hydrographic office a few days ago with the best wishes of a host of friends whose acquaintance he has made since coming to the lakes. He goes to the triple-screw cruiser Columbia. His successor has not as yet been appointed. The Cleveland office is temporarily in charge of Nautical Expert Graves.

Capt. C. Graves of the steamer Keystone went the rounds of the Perry-Payne building in Cleveland, a few days ago, telling of a delightful surprise that had been carried out at his home the night before by a party of ship masters. There was a feast and a variety of amusement, and although he is now well on to the age of retirement, Capt. Graves spoke of the little gathering with an earnestness that showed great appreciation of the friends who had thought of pleasing him. "They were all sailors," he said, "and it was a reminder of old times."

David Vance & Co. of Milwaukee have sold to W. E. Fitzgerald of the Milwaukee Dry Dock Co. the steamer Geo. H. Dyer. The Dyer has been employed in the "Soo" line for several seasons, and it is said that Mr. Fitzgerald represents that line in the transaction. Mr. Fitzgerald also represents a party of Milwaukee vessel owners in the purchase of the steamer J. W. Westcott from J. S. Fay, a retired Michigan lumberman, now residing at Los Angeles, Cal.

Mr. W. F. Herman, general passenger and freight agent of the Cleveland & Buffalo line, has just issued another attractive engraved card showing progress of work on the new side-wheel steamer City of Erie, building at Wyandotte. The picture represents the ship on the stocks, just before launching. All staging is removed, and the big wheel houses, with the frame that is to support the walking beam of the steamer's engines, show up in immense proportions. There is also a neat miniature reproduction of the picture in one corner of the card.

Appointments of Captains and Engineers.

Edwardsburg Starch Co., Cardinal, Ont.: Steamer—Rosedale, Capt. Jas. Ewart, Engineer E. O'Dell.
Myles' Sons, Thomas, Hamilton, Ont.: Steamer—Myles, Capt. John S. Moore, Engineer Jas. Smeaton.
McCormick, H. W., Bay City, Mich.: Steamer—Katahdin, Capt. Michael Canartney, Engineer Robt. Spears. Schooner—Oneonta, Capt. Patrick Gordon.

Williams Trans. Co., H. W., South Haven, Mich.: Steamers—City of Kalamazoo, Capt. David Morris, Engineer A. Krogman; H. W. Williams, Capt. John Bayne, Engineer Perry Kraggs.

St. Lawrence & Chicago Steam Navigation Co., J. H. G. Hagarty, Mgr., Toronto, Ont.: Steamer—Algonquin, Capt. Jas. McMauger, Engineer Jas. H. Ellis.

Chesebrough Bros., Bay City, Mich.: Steamers—Katahdin, Capt. Michael Courtney, Engineer Robert Spears; Peshtigo, Capt. Chas. Haight, Engineer Joseph Buebler.

Smith, Wm., Kenosha, Wis.: Steamers—Alice, Capt. Richard Smith, Engineer Henry Ernst; Emma Bloeker, Capt. Wm. Smith, Engineer John Habel.

Shores Lumber Co., Chicago: Steamer—Jas. H. Prentice, Capt. R. T. Evans, Engineer A. L. Roberts. Schooners—Middlesex, Capt. P. T. Weimar; Halsted, Capt. L. Davidson.

Canadian Pacific Steamship Co., Owen Sound, Ont.: Steamers—Manitoba, Capt. E. B. Anderson, Engineer —; Alberta, Capt. J. McAllister, Engineer A. Cameron; Athabasca, Capt. G. McDougall, Engineer W. Lockerbie.

Stevenson, John, Detroit: Steamers—J. H. Pauly, Capt. F. Forest, Engineer J. Elsey; Mascotte, Capt. N. L. Stewart, Engineer H. Morrison; Miami, Capt. H. Huyser, Engineer M. Roach; Hattie, Capt. E. Donaghue, Engineer H. Hayward; Bessie, Capt. Wm. J. Jack, Engineer A. Hanlon; Shephard, Capt. —, Engineer Wm. Stackhouse.

Elphicke, C. W. & Co., Chicago: Steamers—W. R. Linn, Capt. John Massey, Engineer M. Toner; Geo. N. Orr, Capt. Dan Mallory, Engineer L. Walder; Arthur Orr, Capt. James H. Green, Engineer —; Josephine, Capt. Lewis Elliott, Engineer Richard Sutliff. Schooners—T. L. Parker, Capt. M. J. Pidgeon; C. P. Minch, Capt. Dave Williams; Carlington, Capt. Geo. Trotter; Cheney Ames, Capt. Thomas Myers.

Union Transit Co., H. C. French, Mgr., Buffalo: Steamers—J. M. Nicol, Capt. Wm. McLean, Engineer Geo. Tretheway; J. V. Moran, Capt. John L. McIntosh, Engineer Jas. H. Countryman; W. H. Stevens, Capt. John H. Maloy, Engineer J. E. McSweeney; Avon, Capt. Norman McGuire, Engineer Fred. F. Sherwood; Portage, Capt. John Tyrney, Engineer Geo. W. Haig; Eber Ward, Capt. Alex. Clark, Engineer John R. Judge.

Corrigan, James, Cleveland: Steamers—Bulgaria, Capt. A. H. Gain, Engineer G. M. Newton; Caledonia, Capt. J. W. Brion, Engineer —; Italia, Capt. R. J. Pringle, Engineer —. Schooners—Amazon, Capt. Harvey Peters; Australia, Capt. C. H. Marsden; Polynesia, Capt. Chas. Bush; Northwest, Capt. F. D. Perew; Tasmania, Capt. —.

Corrigan, John, Cleveland: Steamer—Aurora, Capt. Robt. Donaldson, Engineer James Cummings. Schooner—Aurania, Capt. F. B. Cody.

Miscellaneous appointments reported from Marine City, Mich.: Steamers—Edward H. Jenks, Capt. J. M. Shackett, Engineer E. H. Hill; Kate Buttironi, Capt. C. E. Norton, Engineer Sidney Bennett; Geo. King, Capt. Wm. J. Burns, Engineer Michael Owen; Mat. Sicken, Capt. John Kuhn, Engineer Wm. Sicken; Reliable, Capt. Davis, Engineer Frank Ouellett; Comfort, Capt. Thomas W. Whitley, Engineer Mose Doan; Abercorn, Capt. Robert Leitch, Engineer J. M. Mitchelson; D. F. Rose, Capt. C. M. Saph, Engineer Hubert Manion; Tempest No. 2, Capt. Joseph Lows, Engineer Charles Schunk. Schooners—Grace Whitney, Capt. John Lorenzen; Thomas Gawn, Capt. Julius Lorenzen; Chas. Spademan, Capt. Geo. Goulette; Melvina, Capt. Joseph Chaltrou; McVea, Capt. Harry Larsen; Saint Joseph, Capt. Alex. Mareron; Laney Simes, Capt. John Bebee; J. M. Hutchenson, Capt. Henry Holland. Tugs—Thomas Thompson, Capt. John A. Miller, Engineer Thos. Ouellett; Geo. W. Parker, Capt. Wm. Stover, Engineer Thos. Naden; Whistler, Capt. Henry C. Cottrell, Engineer Adam Friederichs.

Mr. Carnegie's Ship Yard Idea.

Mr. Andrew Carnegie's recent letter to the Iron Trade Review regarding the establishment of a great ship yard near New York has been widely published. A communication from Mr. W. I. Babcock, manager of the Chicago Ship Building Co., giving an opinion of the views submitted by Mr. Carnegie was published in the last issue of the Marine Review, and we are now in receipt of several other letters on the subject. The first is from Mr. A. E. Stevens, of the well-known family of engineers who have had much to do with the advancement of steam navigation in this country. Mr. Stevens says:

Editor Marine Review:—It would be a hardy man who would venture to criticize an opinion of Mr. Carnegie on any subject connected with the steel industry. New York is now handicapped as a home of ship building by higher wages and higher land values than obtain elsewhere; say on the Delaware. Besides this, such establishments as Cramp's, Roach's and Harlan & Hollingsworth's have made a population of mechanics skilled in ship building from which a yard force can be quickly recruited. The latter disadvantage can be overcome in time; whether higher wages and rents can be offset by the cheaper material promised by Mr. Carnegie is a question on which I would not venture to set my opinion against his.

The position of London as against the northeast coast and the Clyde is worse than New York as against the Delaware and the Chesapeake. Is New York's position so much better as to warrant the belief that a yard in this port will escape the fate that has fallen the ship building industry on the Thames?

But wherever the revival may find a home, I fully believe in Mr. Carnegie's assertion that American ship builders will again hold the supremacy. In spite of adverse conditions influencing the demand for merchant work and of the vacillating and short-sighted policy of the government in naval construction, we have now reached a point where on some classes of work American prices are as low, if not lower, than

British ones, and in all classes the difference is but small. Given but a small increase in the demand and you may trust the American engineer and his brother, the mechanic, to put our yards where they should be—lowest in price and best in work. I expect to live to see this done.
Hoboken, N. J., March 9, 1898. A. E. STEVENS.

FROM HON. F. W. WHEELER.

Marine Review:—We have noticed the suggestions of Mr. Andrew Carnegie regarding a steel ship building plant about or near the harbor at New York. We think his suggestions are very good, and believe that the time has arrived when Americans can regain their lost position upon the sea. We also believe that the enterprise of the Carnegie people and other large steel manufacturers of this country in putting in facilities to enable them to compete with the world for steel, will place the lakes upon a sounder and stronger footing than we have had, for if our home trade has consumed from 10,000,000 to 12,000,000 tons of ore per annum, and we now own the markets of the world by our being able to sell cheaper than others, we see no reason why in the very near future 20,000,000 tons of ore should not be handled annually. If this prognostication be correct, a great many more large ships will have to be built upon the lakes in order to carry ore at the price demanded for the service. In this connection, we are frank to admit that our face is turned toward the rising sun.

F. W. WHEELER, President.
West Bay City, Mich., March 12, 1898.

FROM THE INVENTOR OF THE WHALEBACKS.

Marine Review:—In reply to yours regarding Mr. Carnegie's idea of a ship building plant in New York harbor: I have thought of this for a number of years, we having built two vessels there, and I could plainly see the disadvantage of doing business of this character without the force and promptness with which ship building and repair work is done in the lake country; and I think that, if a combination of lake interests would undertake to put in a plant for new construction and the repair of ships on a large scale in New York harbor, it would be a very profitable investment, particularly so if the managing sentiment came from practical lake ship builders; and if such a plant was established it would be a great benefit to the country at large, as it would enable us at an earlier date to place the American ship in foreign trade.

ALEXANDER McDOUGALL.

West Superior, Wis., March 9, 1898.

FROM THE DRY DOCK COMPANY'S SECRETARY.

Editor Marine Review:—Mr. Carnegie's scheme would be a grand thing for all concerned could it be carried out with success. There are, however, bright men and enterprising concerns located on the Atlantic, and that lake methods do not exist there may be from causes not apparent, but that nevertheless would have to be overcome. When ship material can be carried from Pittsburg to New York for \$1 per ton, with reasonable dispatch, the time may be ripe for the establishment of a modern up-to-date ship yard that will mark the beginning of more satisfactory conditions in our ship building and the expansion of our ocean commerce. I believe Mr. Carnegie's views will be realized, but whether success will come in the immediate future or at a more distant day can only be answered by experiment.
G. N. McMILLAN.

Detroit, March 15, 1897.

Gen. T. W. Hyde of the Bath Iron Works and Mr. Charles Cramp of the Wm. Cramp & Sons' Ship & Engine Building Co. are both out of the country and their opinions cannot be secured for the present. Gen. Hyde is on a trip to Cuba and Mexico, and Mr. Cramp sailed for Europe a few days ago.

More New Ships.

Following close upon the contract for a steel tow barge placed by the Minnesota Steamship Co. with the Chicago Ship Building Co., comes the announcement that Mr. A. B. Wolvin of Duluth has been asking for bids on another 450-foot steamer and may have already placed an order for the ship. The steel tow barge to be built by the Chicago company will, with the exception of 2 feet more beam, be a duplicate of the barge for the Minnesota company now nearing completion at West Superior. Robert Curr, who has been representing the Minnesota company at West Superior, has left for Chicago, where he will act in the same capacity while this second barge is under construction.

Additional elevator capacity at Kingston will tend to produce quite a rivalry for grain business between that port and Prescott next season, but representatives of the Prescott interests are claiming that this competition will simply increase the business as a whole. A correspondent at Prescott says: "The Prescott elevator with a capacity of 1,000,000 bushels is reported to be in first-class shape for the reception of business for the coming season. This house is located 70 miles nearer Montreal than Kingston and is equipped with a marine leg capable of handling grain at the rate of 10,000 bushels an hour, thus ensuring prompt dispatch for vessels. During the season of 1897 there was handled at this port 8,000,000 bushels of grain, destined for export via Montreal, and with the facilities for prompt dispatch offered there is no reason why the coming season should not be equally good."

John Anderson of Collingwood, Ont., is trying to secure from vessel owners assurance of business enough to warrant him in taking up a general pilotage business on Georgian bay, and especially for vessels trading to Parry Sound. He requests ship owners and ship masters to correspond with him on the subject, and if he concludes that there will be profit in the undertaking he will establish an office at Cove island, entrance to Georgian bay from Lake Huron.

It was said in the last issue of the Review, referring to the location of the steamer Rosedale when wrecked on East Charity shoal, that the gas buoy on Charity shoal proper was N. W. 1/2 W., distant 1/2 mile. The distance should have been given as about 1 1/2 miles.



DEVOTED TO LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 409 Perry-Payne building, Cleveland, Ohio, by John M. Mulrooney and F. M. Barton.

SUBSCRIPTION—\$2.00 per year in advance. Single copies 10 cents each. Convenient binders sent, post paid, \$1.00. Advertising rates on application.

Entered at Cleveland Post Office as Second class Mail Matter.

The books of the United States treasury department on June 30, 1897, contained the names of 3,230 vessels, of 1,410,102.60 gross tons register in the lake trade. The number of steam vessels of 1,000 gross tons, and over that amount, on the lakes on June 30, 1897, was 399, and their aggregate gross tonnage 769,366.68; the number of vessels of this class owned in all other parts of the country on the same date was 314, and their tonnage 685,709.07, so that more than half of the best steamships in all the United States are owned on the lakes. The classification of the entire lake fleet on June 30, 1897, was as follows:

	Number.	Gross Tonnage.
Steam vessels	1,775	977,235.45
Sailing vessels and barges.....	1,094	394,888.87
Canal boats	361	37,978.28
Total	3,230	1,410,102.60

The gross registered tonnage of the vessels built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

Year ending June 30, 1893.....	175	99,271.24
" " " 1894.....	106	41,984.61
" " " 1895.....	93	36,352.70
" " " 1896.....	117	108,782.38
" " " 1897.....	120	116,936.98
Total	611	403,327.91

ST. MARY'S FALLS AND SUZ CANAL TRAFFIC. (From Official Reports of Canal Officers.)

	St. Mary's Falls Canals.			Suez Canal.		
	1897	1896	1895	1897	1896	1895
Number of vessel passages.....	17,171	18,615	17,956	2,986	3,409	3,434
Tonnage, net registered.....	17,619,933	17,249,418	16,806,781	7,899,374	8,560,284	8,448,383
Days of navigation.....	234	232	231	365	365	365

In the call that has been made on most of the naval officers engaged in shore duty, Commander Geo. F. F. Wilde has been transferred from the position of naval secretary of the light-house board to the ram Katahdin. Commander Wilde was one of the most energetic and pains-taking officers ever connected with the light-house service. The establishment of a magnificent system of gas buoys on the lakes was due largely to the persistent efforts of this officer to render suitable service to the great volume of shipping which he found here after personal examination. He inaugurated, after a great deal of opposition on account of old methods in the service, the present plan of making monthly, and in some cases semi-monthly, payments of salaries to light-keepers, who were previously paid about every three months. The establishment of the Hatteras shoal light-ship was also due in a great measure to the progressive spirit that was noticeable in all his undertakings. Vessel owners of the lakes have reason to feel particularly disappointed on account of the transfer of Commander Wilde. With the gas buoy service well under way, he was to receive hearty support from the vessel owners in an effort to have the sundry civil appropriation bill amended in the senate so as to provide appropriations for two new tenders, suited to properly caring for these buoys. It was also the intention of the vessel owners, not only of the lakes, but of the Gulf and Atlantic coast, to ask the senate for an amended clause in this bill, providing for the use of \$100,000 of buoyage funds for the purchase of gas buoys. In these matters the new naval secretary, Commander S. M. Ackerly, will be asked to cooperate, and will undoubtedly be found equally zealous for the advancement of the service. It is unfortunate, however, that these frequent changes are made in an institution so important as the light-house board.

Bills authorizing the construction of eight revenue cutters for coast service, and the payment of \$330,151 for labor, material, etc., on the gun-boats Chicago, Boston and Atlanta have passed the senate, and an effort will probably be made to include appropriations covering these items in the sundry civil appropriation bill, which will be taken up by the senate in a few days. It is certain that appropriations for the eight revenue cutters will not be secured, as a strong effort will be made to guard against amendments to the sundry civil bill in the senate, so as to keep the aggregate of appropriations down to about the amount carried by the bill as it passed the house. Appropriations may possibly be secured for one or two of the new cutters. It was thought that in view of the postponement of a river and harbor bill until the next session, some pressing river and harbor items would also be incorporated in the sundry civil bill as senate amendments, but the senate committee on commerce has decided to bar out of this bill all items which do not provide for improvements under the continuous contract system and for which estimates have not been made.

New York newspapers seem to think that the state legislature will this week agree upon a bill, which proposes to submit to the people of the state at the general election in November the question of appropriating \$7,000,000 required to complete canal improvements, upon which \$9,000,000 has been expended within the past two years. The indignation that followed the announcement of this great shortage in funds required to complete the work has partially subsided, and as no part of the new appropriation, if favored by the people, will be expended until 1899, the party then in power will benefit by the patronage thus created.

This condition is held out as an inducement to both Democratic and Republican members of the legislature to vote for the measure which again submits the question to the people.

Although Mr. Charles Cramp, leaving this country a few days ago, said that his European trip was simply for the purpose of keeping posted on what is being done in the ship yards of other countries, the New York newspapers insist that his trip is associated with the imperial ukase issued by Czar Nicholas for the expenditure of nearly \$70,000,000 for Russian warships. This \$70,000,000 naval appropriation is a tempting bait for ship builders the world over, especially as it is thought Russian yards will not be equal to the immediate requirements of the government, and it is said that Mr. Cramp hopes to return with an order for a war ship or two.

Engineer-in-Chief G. W. Melville, U. S. N., in the North American Review for March, discusses the question of "Our Future on the Pacific." His article includes a consideration of the potentiality of the Pacific states, their coast defences, the extent of and the possibilities for America in the markets westward of her shores, and the revival of the shipping and commercial interests of the nation on the waters of the Pacific.

A report of the decision of United States District Judge Ricks in the Choctaw-Waldo collision case, printed last week, contained one sentence saying "the court held the Choctaw solely at fault." The Waldo and not the Choctaw was held at fault, as shown by all other parts of the article, but it is probably well to direct attention to the error and thus avoid all possibility of a misunderstanding.

Another contract for a large passenger and freight steamer is talked of in New York. The Old Dominion Steamship Co. will soon make arrangements for the construction of a duplicate of their last new ship, Princess Anne, which has proved a marked success.

In the transfer of naval officers from shore duty to ships, on account of war talk, Capt. T. F. Jewell, late of the lake light-house service, was transferred to a better vessel than was at first assigned to him. He has taken command of the Minneapolis, one of the big triple-screw cruisers.

The death of Sir Henry Bessemer, celebrated inventor of the Bessemer process of making steel, was announced from England Tuesday. The great reduction made in the cost of steel since the introduction of the Bessemer process is one of the wonders of the present time.

It is said that the new dry dock to be built by the Newport News Ship Building & Dry Dock Co. at Newport News, Va., will be 900 feet long and 95 feet wide.

Gov. Bushnell and the Ohio legislature have asked the Ohio delegation in congress to bend their efforts toward having one of the new battle-ships named Ohio.

Praise for the Monitors.

Discussion of naval resources brings out a strong expression of opinion favorable to vessels of the monitor type. Admiral Jouett says in an interview in the New York World:

"I think and have always thought that the heavy coast defense monitors are the most powerful and best fighting ships in the navy, and I believe that one of them could whip any two of the heaviest battleships afloat. If war was declared I would guarantee to take the Puritan and the Terror and defend New York harbor against all comers, and I am confident that I should win. The fact that battleships, owing to their size and weight, are ponderous affairs and difficult to move makes them an easy prey for torpedoes and torpedo boats. The United States should, in my opinion, confine itself to a fleet of heavy monitors, a powerful flying squadron of heavily armored cruisers, enough light cruisers to represent our country and carry our flag into the ports of foreign nations, and a large number of torpedo boats and torpedo catchers to operate in conjunction with the monitors."

Senator Chandler, ex-secretary of the navy, says: "I am not in favor of the Maine class of battleships, and am of the opinion that the government will never undertake to build any more of them. I do not care to criticize the Maine in detail, but will say that it is not the kind of vessel to use as a war vessel."

Summaries of Lake Shipping.

It has been the custom of the Marine Review for several years past to carry at the head of the editorial page a summary of figures showing the number and tonnage of vessels owned throughout the United States, together with statistics relating particularly to lake shipping. The tables also deal with ship building on the lakes and with commerce of the St. Mary's Falls and Suez canals. These statistics are corrected each year in accordance with official reports. They are not estimates. There is no guess-work about them. They are from government sources. Many of the estimates that are sent out regarding the entire movement of freight on the lakes are harmful. It is unfortunate that the customs regulations do not permit of the preparation of a complete summary of the freight movement on the lakes, but this is no excuse for some of the wild estimates on this score that have been published. The Review will not deal in estimates. The figures referred to on the editorial page may be regarded as entirely correct.

Reduced rates between Cleveland, Painesville and Lorain. Nickel Plate road.—45 cents one way, either direction. Round trip 80 cents. Intermediate points at corresponding rates. These rates effective until otherwise advised. A peerless trio of fast express trains daily. See agents of Nickel Plate road. 28, April 7.

Trade Notes.

In an advertisement elsewhere in this issue the Mississippi River Commission advertises for three small steam tenders and four pile sinkers.

It is estimated that the Crescent Ship Yard, Elizabethport, N. J., conducted by Lewis Nixon, has at least a year's work on hand at profitable prices.

At this season of year, L. Black & Co., No. 156 Woodward avenue, Detroit, manage to provide a display of marine pictures in their show windows. This firm gives especial attention to repairing all kinds of nautical instruments. A complete new stock of barometers, marine glasses, etc., was received by them recently.

The lumber barges S. E. Marvin and R. L. Fryer have been chartered for the coming season to the Edward Hines Lumber Co. of Chicago, and will tow behind the steamer Santa Maria, which the Chicago company recently purchased from Marine City parties at about \$50,000. The Marvin and Fryer will probably be owned by the Hines company before the season is at an end, as a proposition submitted by Mitchell & Co. of Cleveland for the sale of them seems to be satisfactory to both interests.

A branch office of the International Correspondence Schools of Scranton, Pa., is being established in the American Trust building, Cleveland. There are now over 35,000 students and graduates of this institution in the United States. The various courses include instruction that is especially suited to young men connected with ship building establishments. The main object of the school is to carry on, through correspondence, a line of technical instruction that will qualify workmen in any vocation for higher positions.

The Berlin Iron Bridge Co. of East Berlin, Conn., makes a practice of publishing notices of contracts for the construction of new buildings. Their business of late must certainly be reaching immense proportions, as new contracts for buildings designed to suit every imaginable line of industry in all parts of the country are noted every two or three days.

Another contract for a Howden draft equipment, No. 54, is reported from the Dry Dock Engine Works, Detroit. This latest order, 1,500 horse power, brings the aggregate horse power of all equipments up to 63,500.

Dispatches from Halifax dealing with the difficulties that were encountered in towing the disabled French liner La Champagne into port, after she had been rescued from a perilous position on the Newfoundland banks by the Western line freight steamer Roman, report that during the first day's towing the hawser between the two vessels parted three times. It was finally necessary to connect two large steel lines and a massive manilla one. If the freight steamer had been provided with a steam towing machine of the kind manufactured by the American Ship Windlass Co. there would have been no breaking of lines. The big passenger steamer was subjected to additional danger of loss every time a line broke.

W. H. Kearfott of Cleveland, well-known among engineers in lake cities who are interested in pumping machinery, writes from New York about the pleasant experience of a large party of engineers aboard the Kaiser Wilhelm der Grosse in New York harbor on Monday last. He says: "Under the leadership of Mr. F. M. Wheeler of the Blake company a party of more than 100 engineers, including Miers Coryell, E. Platt Stratton and other old friends of the Marine Review, as well as many notable men from Europe, completely inspected every part of the magnificent North German Lloyd liner Kaiser Wilhelm der Grosse. I say every part, but I would qualify this by adding that 90 per cent. of the time was in the engine rooms and 90 per cent. of the time there was around and about the twin-cylinder air pumps and the other pumps, all of which, you know, were made by the Blake company. What would they think on the lakes of 29 inches of vacuum all the time? Tell our friends who are building new ships that they can get 10 per cent. more power out of them by using this type of pump. After the inspection was at an end, the one hundred odd of us sat down to a sumptuous banquet and heard interesting speeches from Mr. Wheeler, Mr. Coryell and others. It was a great day for all the engineers who were fortunate enough to be in the party."

Twenty-one Torpedo Boats.

There are now twenty-one torpedo boats either built or under construction in the United States. These vessels range from forty-six tons to upward of 300 tons, the large ones partaking of the character of torpedo boat destroyers. The smaller boats are intended mainly for use in harbor defenses, as their dimensions will permit of their rapid ingress and egress from narrow and contracted channels. The latest of these vessels launched is the McKee, which has just left the stocks at one of the Baltimore yards. Two others, the Gwin and Talbot, built by the Herreshoffs of Bristol, R. I., had their official speed trials a few days ago, in Narragansett bay under favorable conditions, and both exceeded their contract speed, the former making an average of 20.9 knots per hour and the latter 21.1. The average steam pressure on the Gwin was 208 pounds to 194 pounds on the Talbot. The Gwin's engines made an average of 430 revolutions and the Talbot's 422. Both of these vessels have complete outfits of Blake pumps for the improved vertical system.

Chicago's Favorite Passenger Station.

Reasonable success seems to have followed the efforts of the management of the Nickel Plate road to make the line popular as a passenger line for travel east and west. It is regarded as a favorite by many in making the journey to or from Chicago.

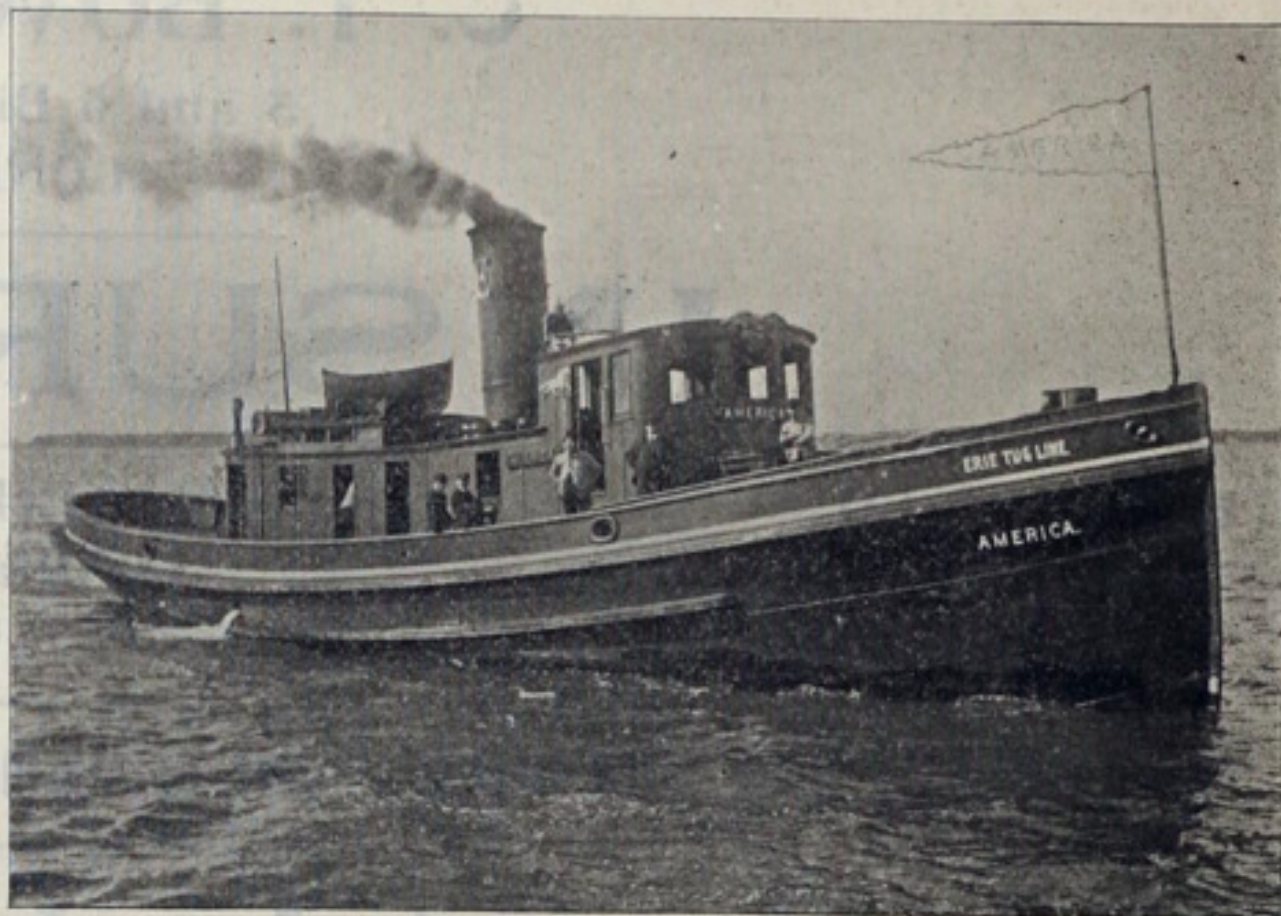
Great satisfaction will be felt by patrons of that line to learn that arrangements are made, effective Sunday, March 6, for all passenger trains of the Nickel Plate road to arrive at and depart from the Van Buren street station in Chicago.

With the many advantages afforded by this great union depot, located in the heart of the business portion of Chicago, and the continued advantage afforded by lower rates than over other lines, with three express trains daily, with through sleeping cars to New York and Boston, and the advantage of superb meals served in the dining cars and eating houses operated by the road, when all considered, should show increased travel over the Nickel Plate road.

16, April 7.

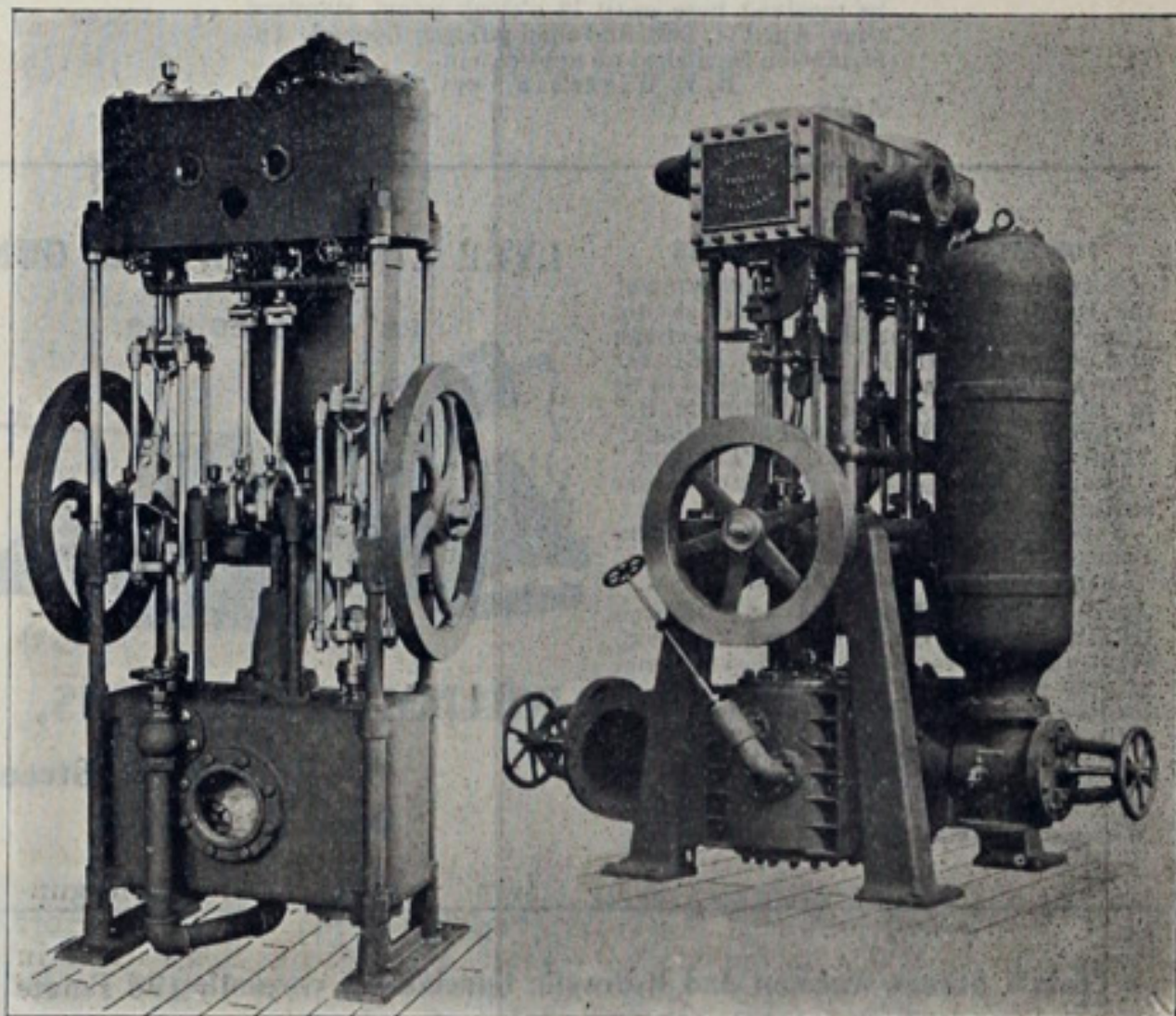
Fire-fighting Equipment for Harbor Tugs.

The first of the illustrations in this column shows the modern steel tug America, the latest addition to the fleet of the Erie Tug Line, Wm. Hill, manager. This tug, although engaged regularly in ordinary towing service, is a part of the Erie fire department. The smaller of the two fire pumps shown in the second illustration is the main feature of her equipment for fire service. This pump will throw half as much water as the other pump, which is one of two pumps in the fire tug Cleveland, du-



TUG AMERICA OF ERIE, PA.

plicates being in use in the Detrioter of Detroit and the Cataract of Baltimore, Md. At an expense of \$1,000 per year the city of Erie secures the services of a fire-boat. This \$1,000 is about equal to interest on first cost of a fire-boat of the kind in use in larger lake cities. Of course, the salaries of a crew represent a saving of some \$15,000 a year. The city of Duluth has a similar arrangement with one or two tugs, and there is talk of trying the same plan at Milwaukee, Manitowoc, Ashland and other places. All of the small ports on the lakes where there are harbor tugs might make similar arrangements and save valuable property on and near the docks from destruction by fire. The tug Erie of the Erie line is equipped with a pump that is a duplicate of the one in the America. These pumps are designed for least weight and room. The steam cylin-



PUMPS FOR FIREBOATS.

ders are 10 inches and the pump cylinders 6 inches, both having 6 inches stroke. They were manufactured by Thos. Manning, Jr., & Co., Cleveland. The pump in the America was connected to two fire engines and pumped them to a standstill. Both of the Erie tugs are equipped with Monitor nozzles, manufactured by A. J. Morse & Son, Boston. The America was built by the Union Dry Dock Co. of Buffalo. The hull is of steel and the houses of the same material. Her dimensions are 90 feet long, 21 feet beam and 12 feet 4 inches deep. She is fitted with a Trout fore-and-aft compound engine, with cylinders 16 and 32 inches diameter and 28 inches stroke. She is fitted with a Dean independent condenser, and has a Dean boiler pump. The boiler is 10½ by 14 feet, and has two furnaces. A steam steerer, manufactured by the Queen City Engineering Co., Buffalo, is another feature of her equipment.

Nickel Plate Road. Reduced Rates between Lorain and Painesville to Cleveland.—45 cents one way. Round trip 80 cents. Intermediate points at corresponding rates. These rates effective until otherwise advised. A peerless trio of fast express trains daily. See agents Nickel Plate road.

27, April 7.

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PROPOSALS FOR STEAM TENDERS AND PILE SINKERS.—Mississippi River Commission, 2732 Pine St., St. Louis, Mo., March 14, 1898.—Sealed proposals, in triplicate, for furnishing three small steam tenders and four pile sinkers will be received here until 12 o'clock noon, standard time, April 14, 1898, and then publicly opened. Information furnished on application.

H. E. WATERMAN, Capt. Eng'rs, Sec'y.

Apl 8

FOR STEAMSHIPS AND TOW BOATS

of best Bronze Gun metal and FACSIMILE of the Government Regulation Life saving Gun, mounted on handsome iron carriage and complete with PATENT REEL for Line and accompaniments, furnished by us to the "Cunard," the "Pacific Mail," "Warren Line," "Cramps of Philadelphia," "Philadelphia & Reading Co.," "Leyland," "Atlantic Transport," and many other steamship lines.

This gun is of superior quality and conforms to full Government tests.

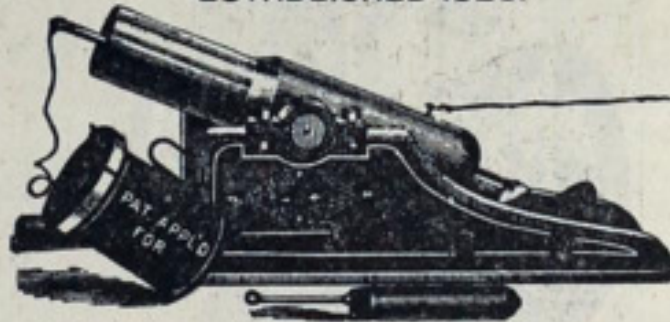
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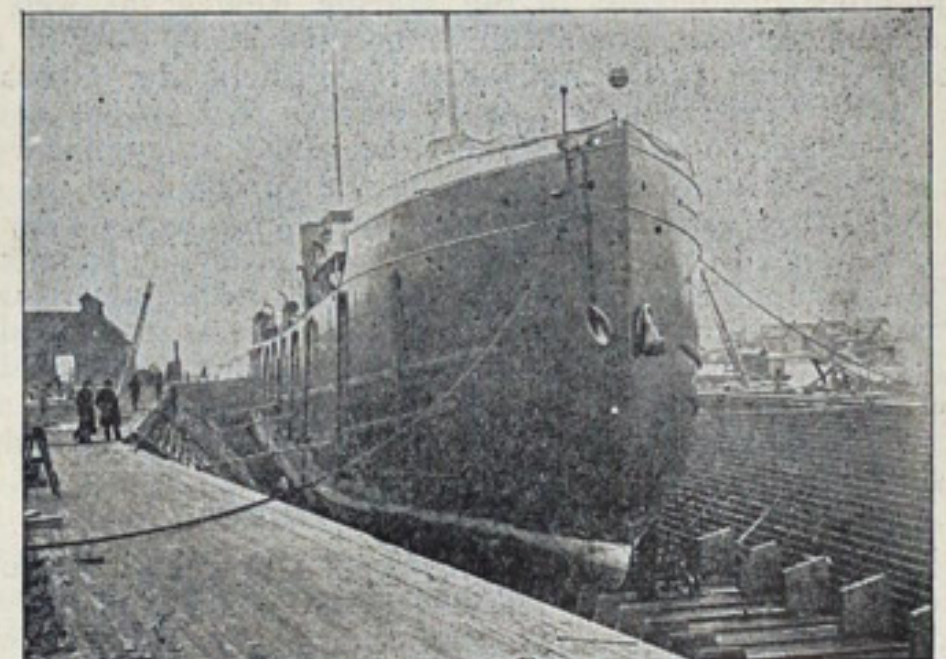
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Length, extreme.....537 feet.	Entrance, Top.....55 feet 9 in
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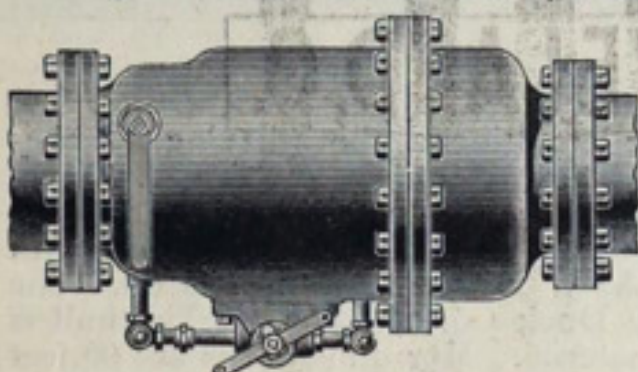
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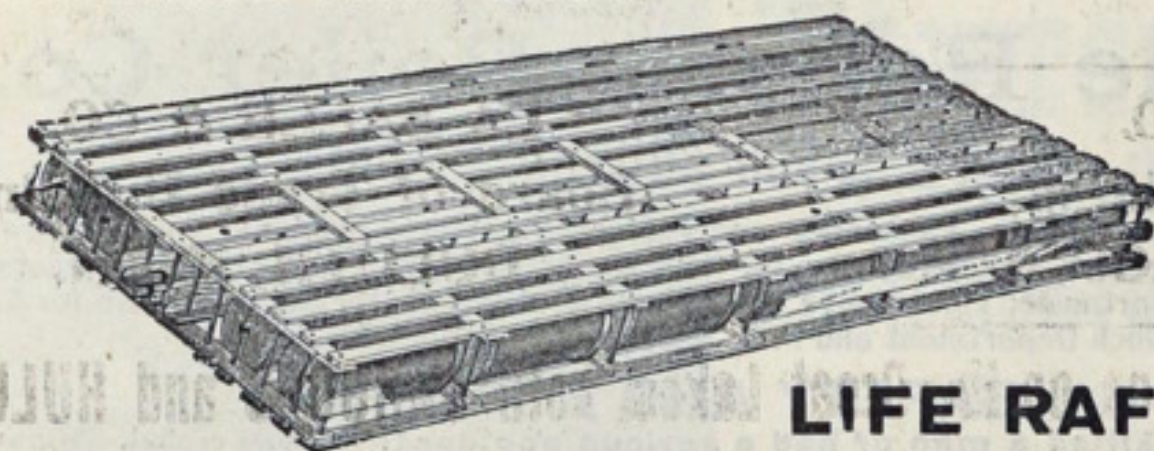
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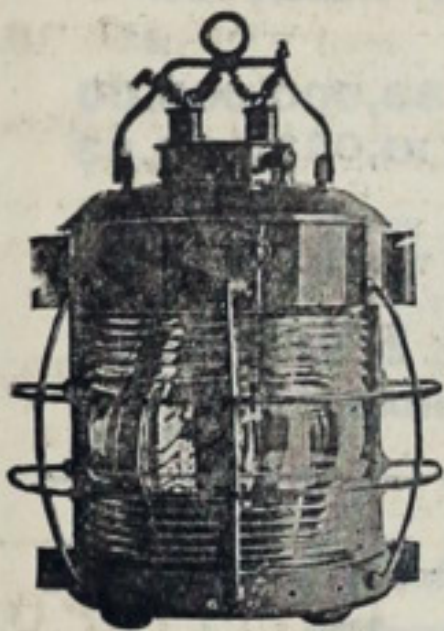
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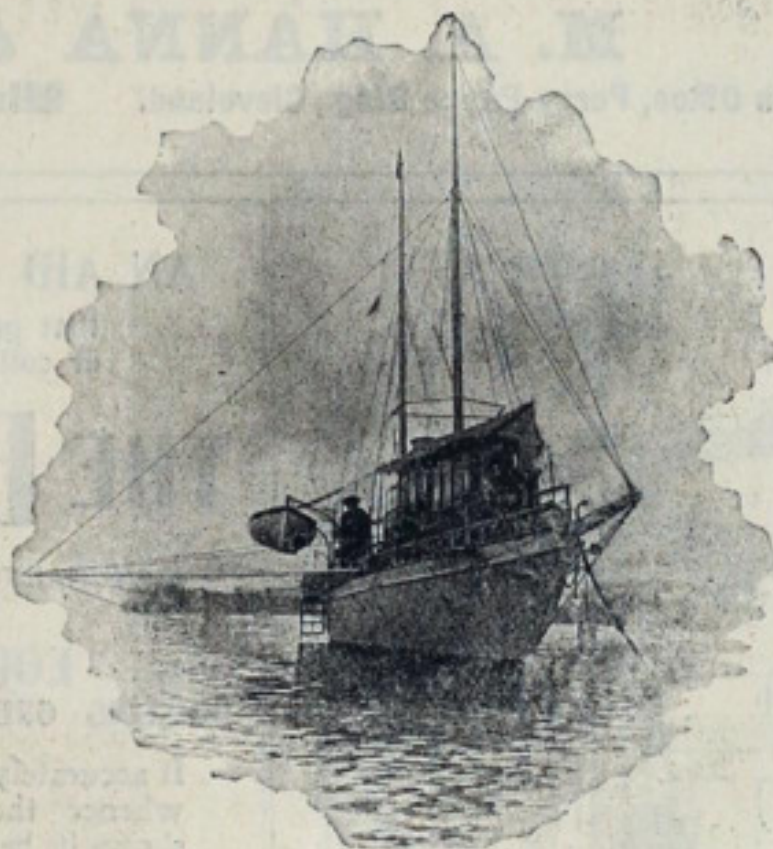
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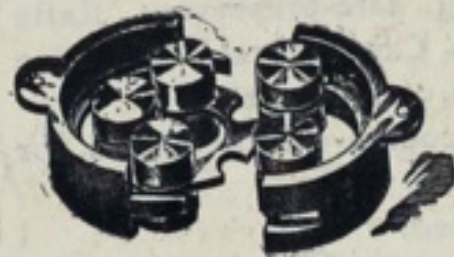
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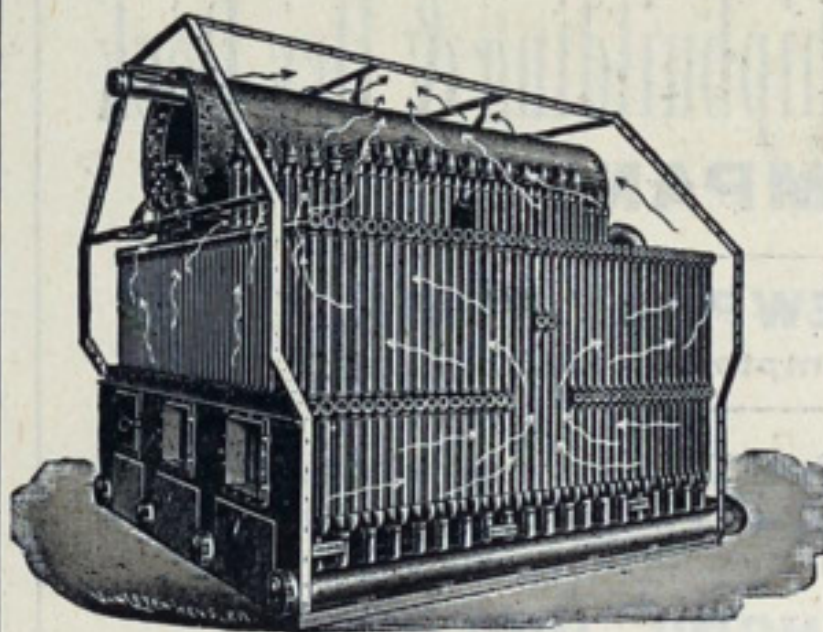
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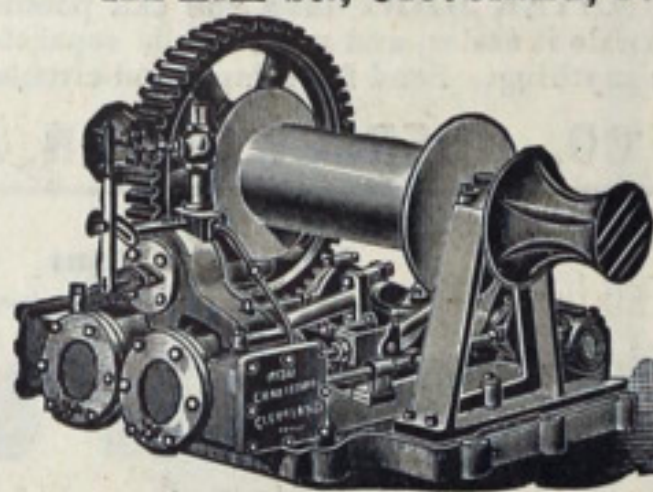
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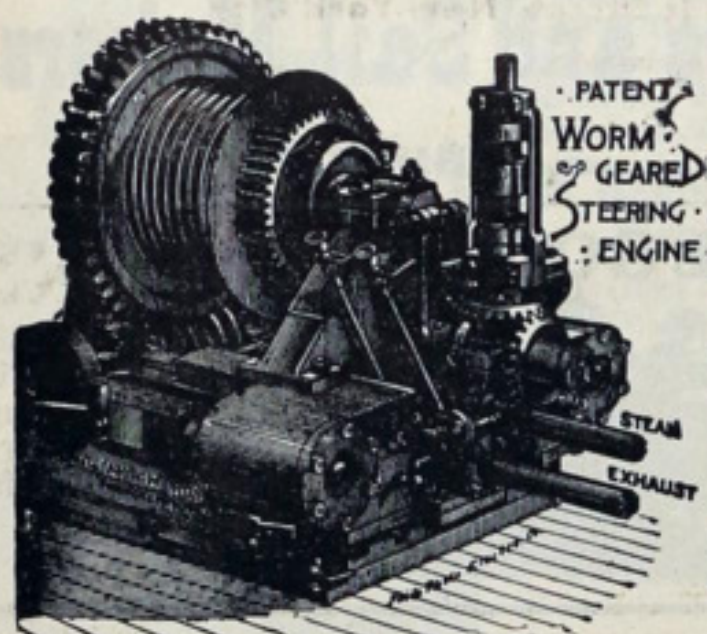
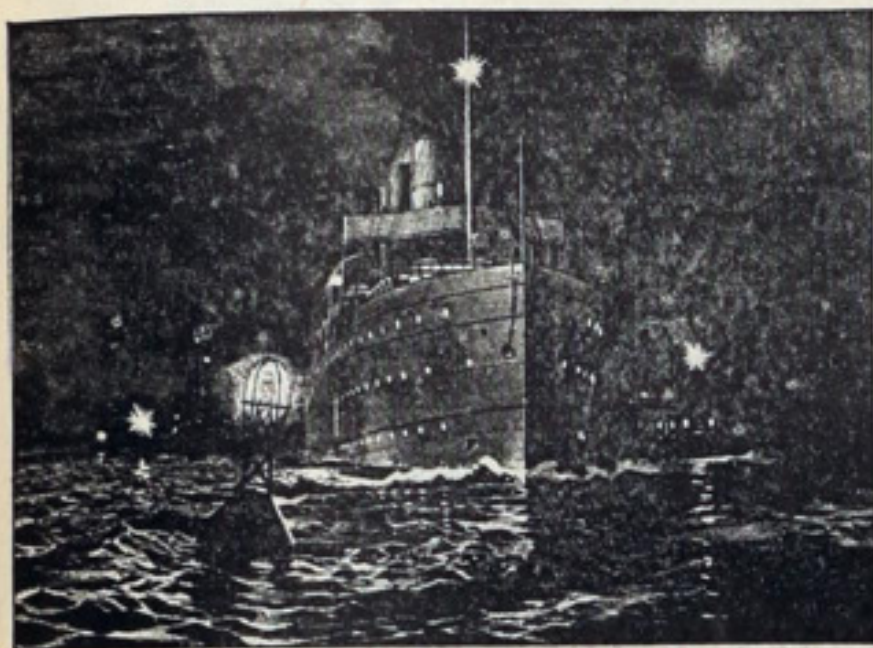
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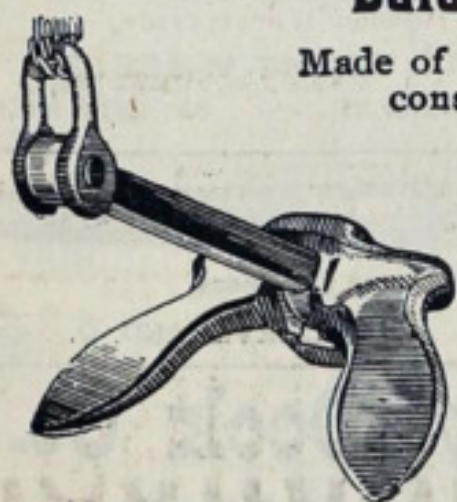
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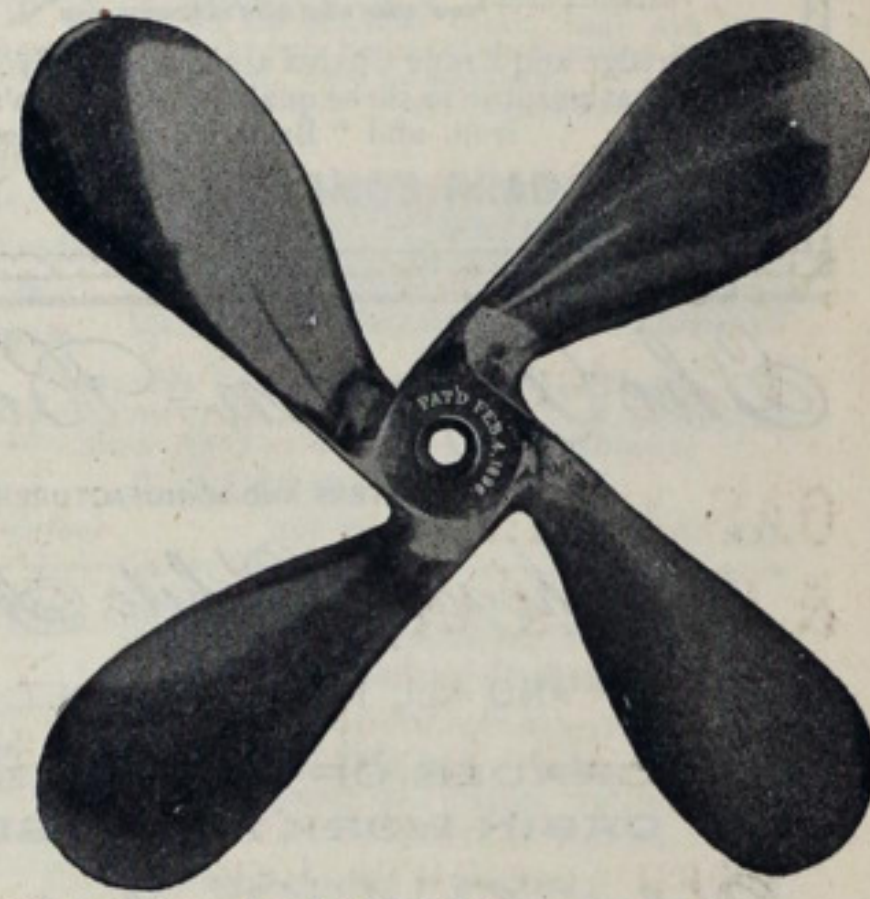
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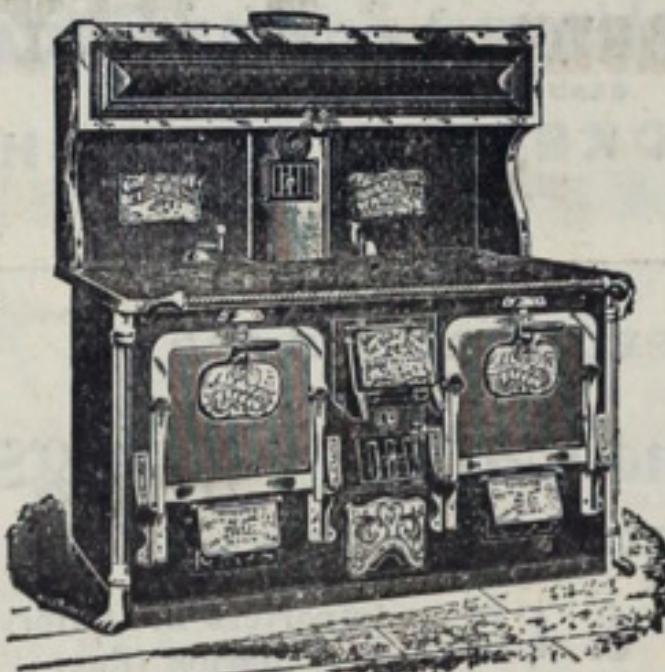
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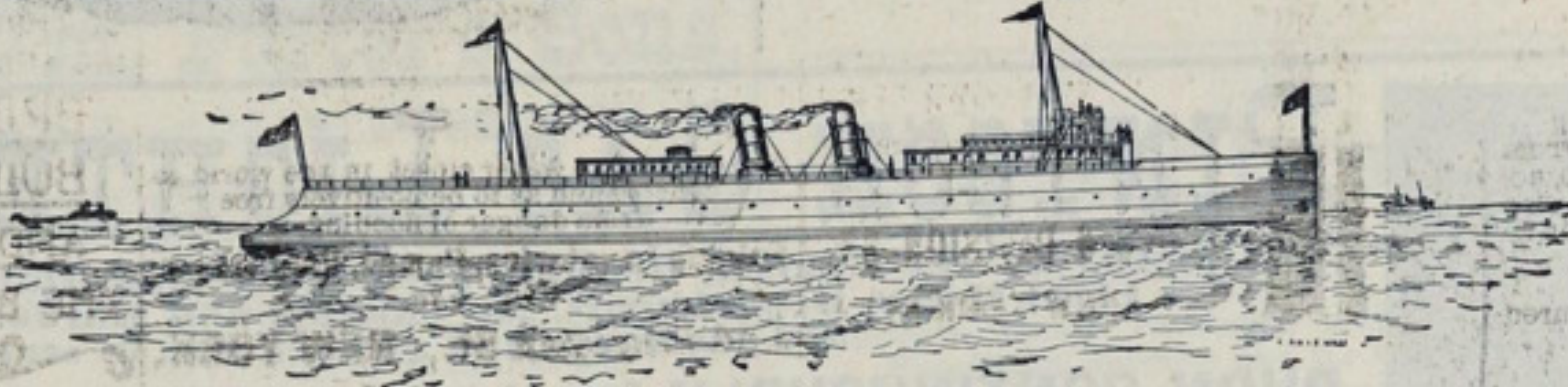
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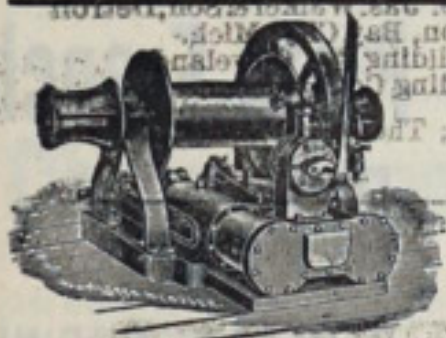
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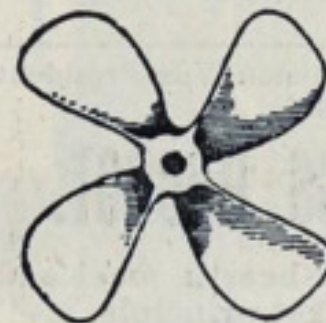
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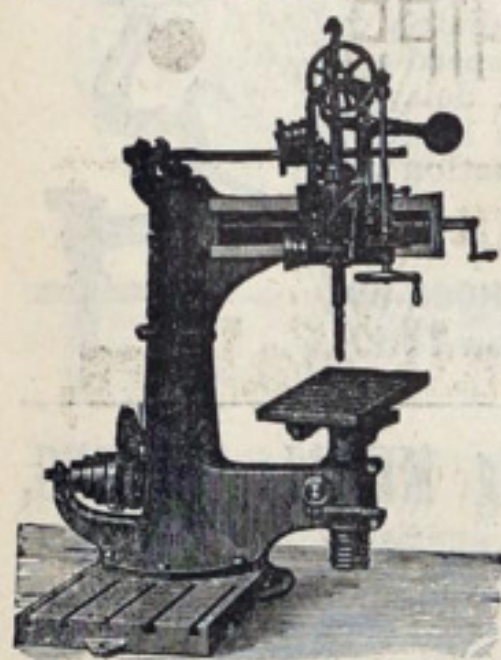
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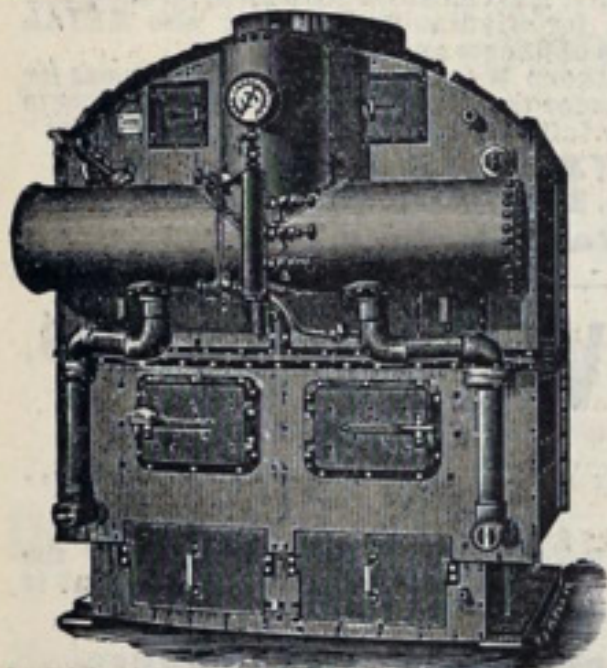
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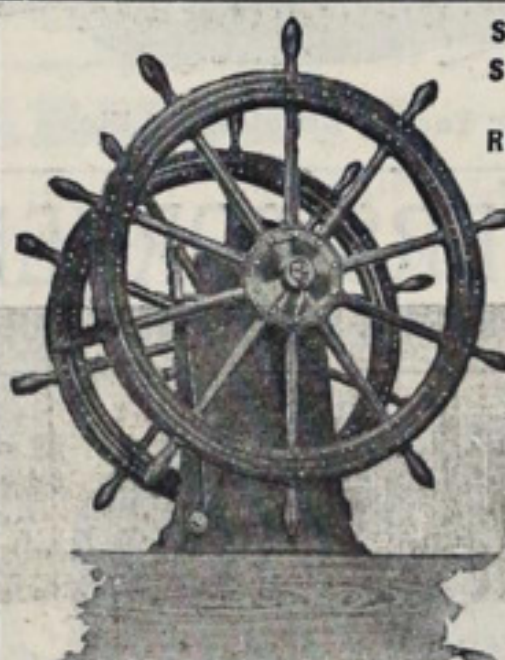
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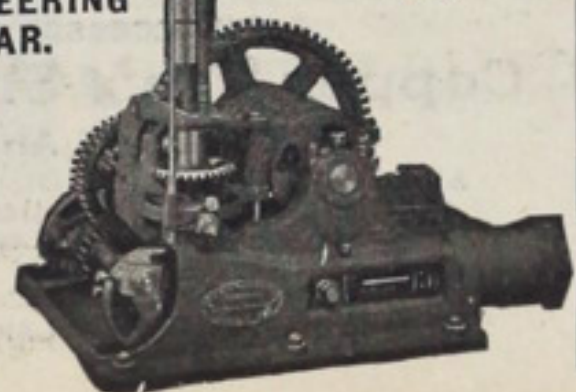


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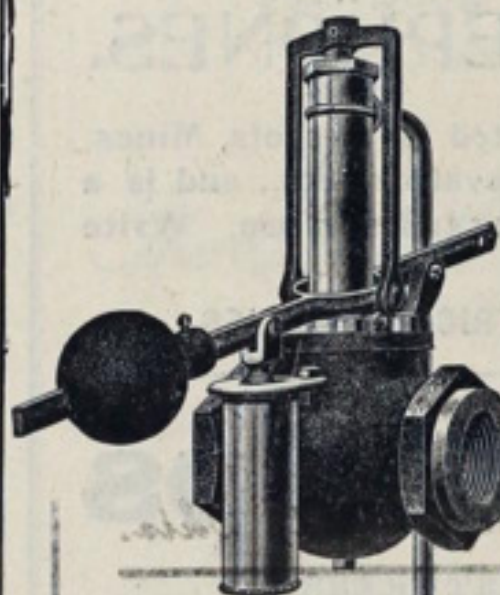
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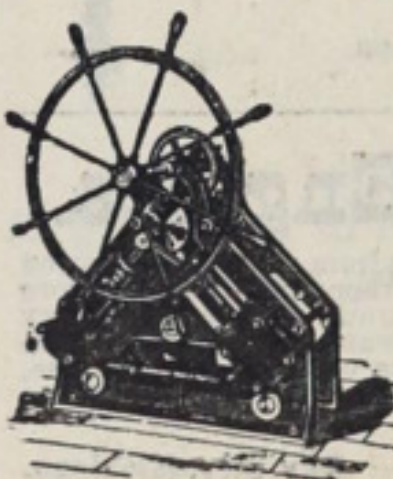
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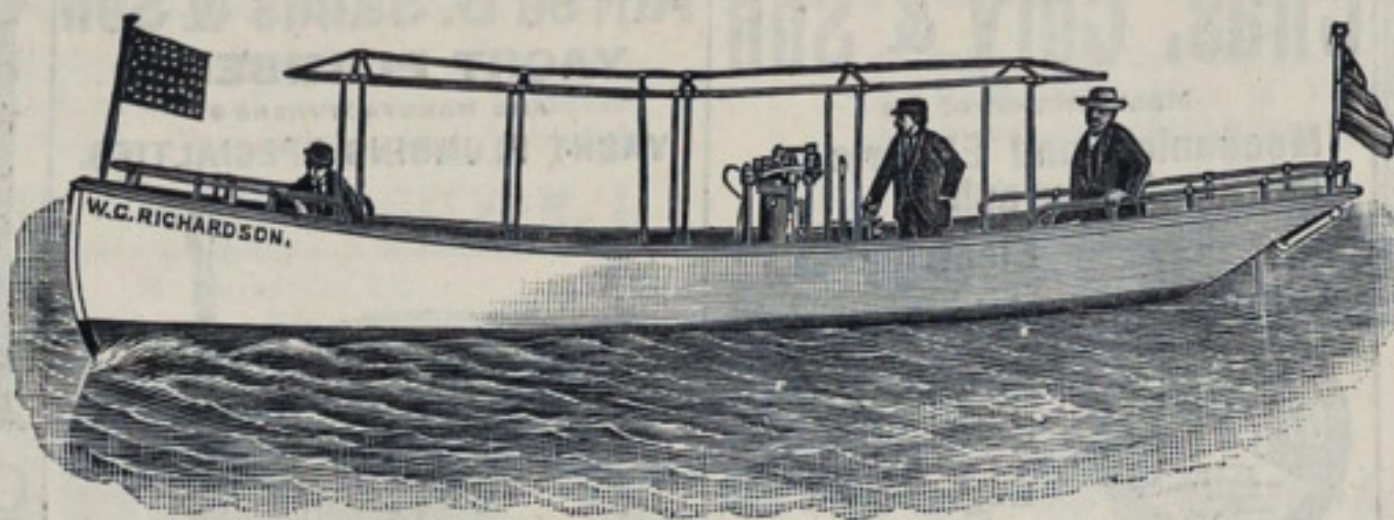


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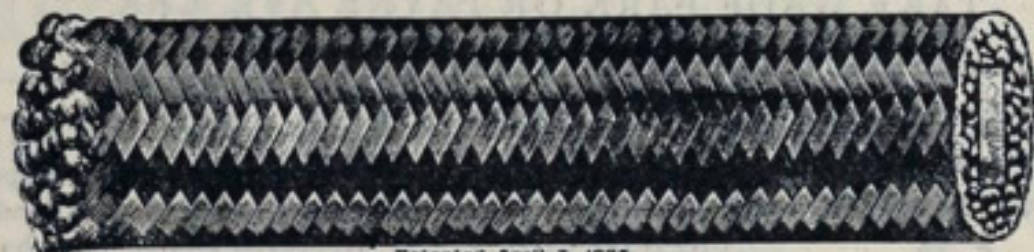
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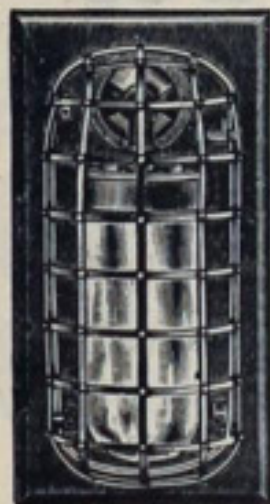
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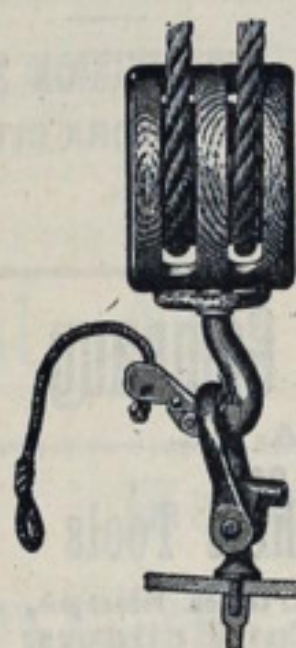
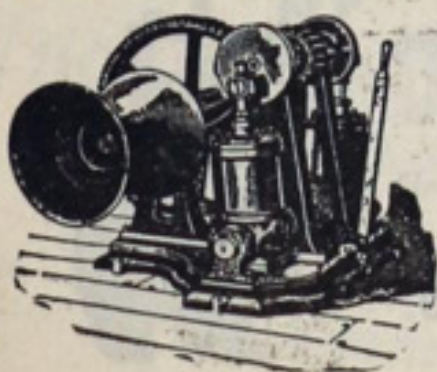
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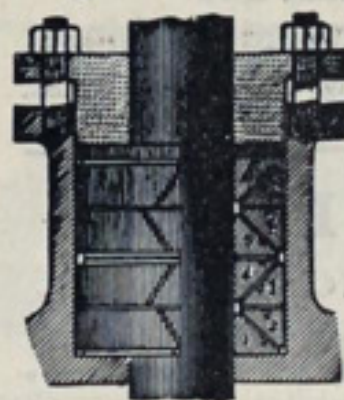
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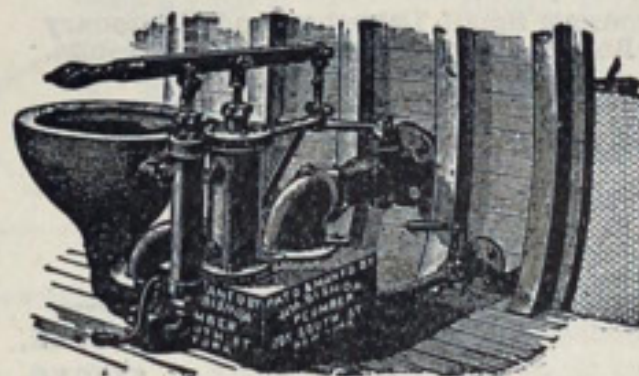
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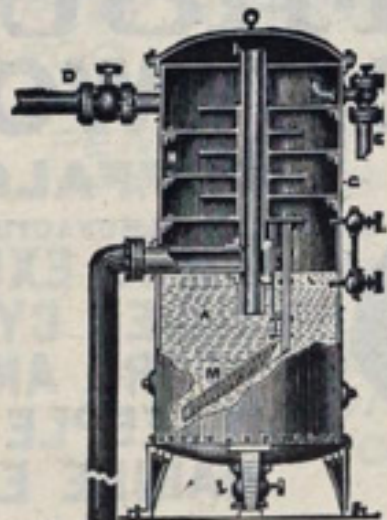
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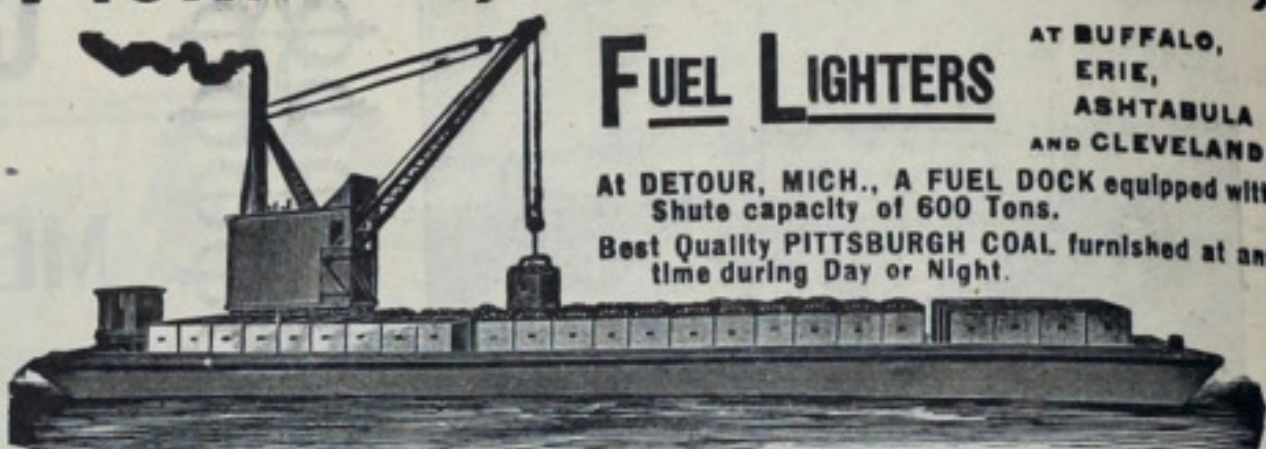
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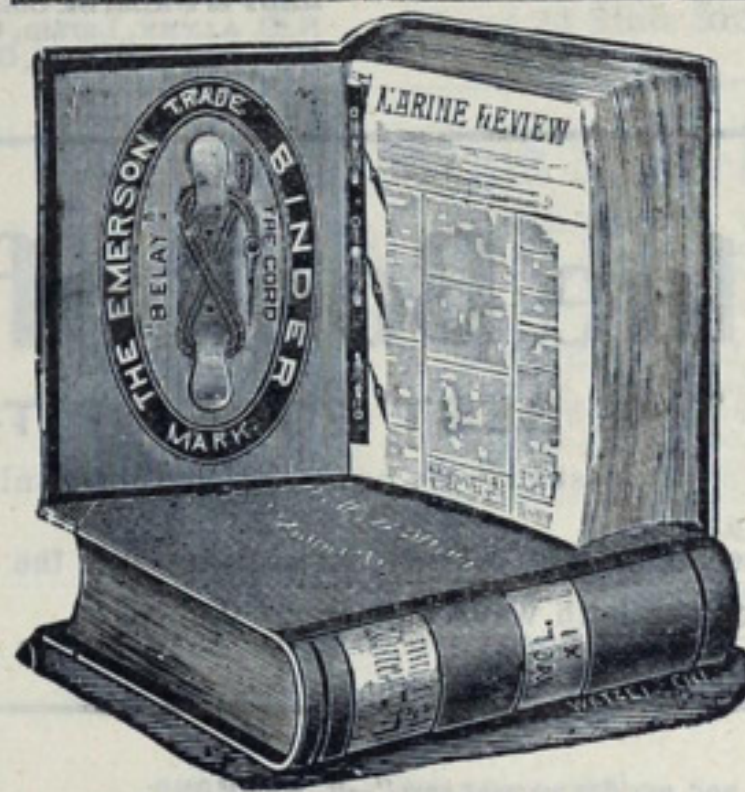
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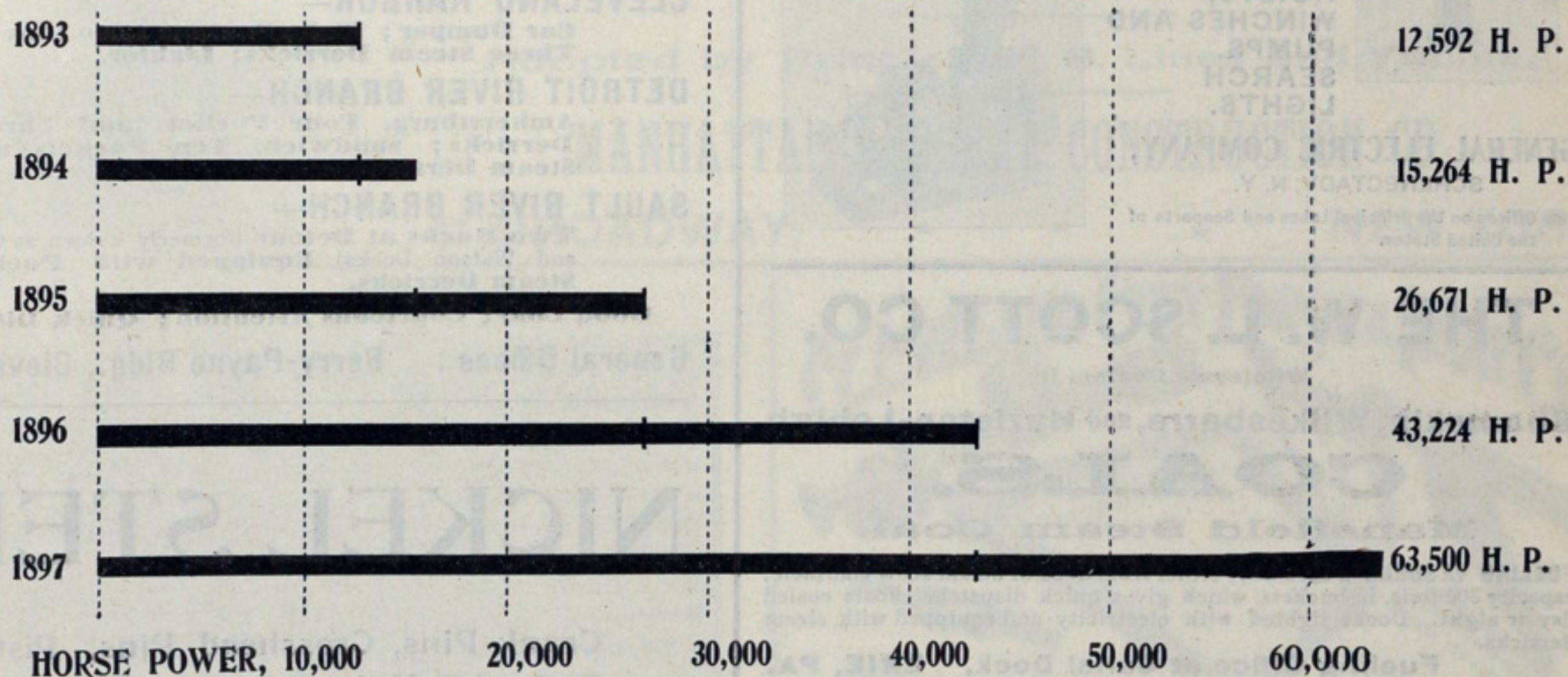
TOTAL INSTALLATIONS THROUGHOUT THE WORLD

692 STEAMERS==1,749,100 HORSE POWER.

TOTAL INSTALLATIONS ON THE LAKES BY THE
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54 STEAMERS==63,500 HORSE POWER.

Diagram showing the increase of HOWDEN equipments on the lakes for the first five years.



At this rate of increase all the principal steamers of the lake business fleet will be equipped in ten years.

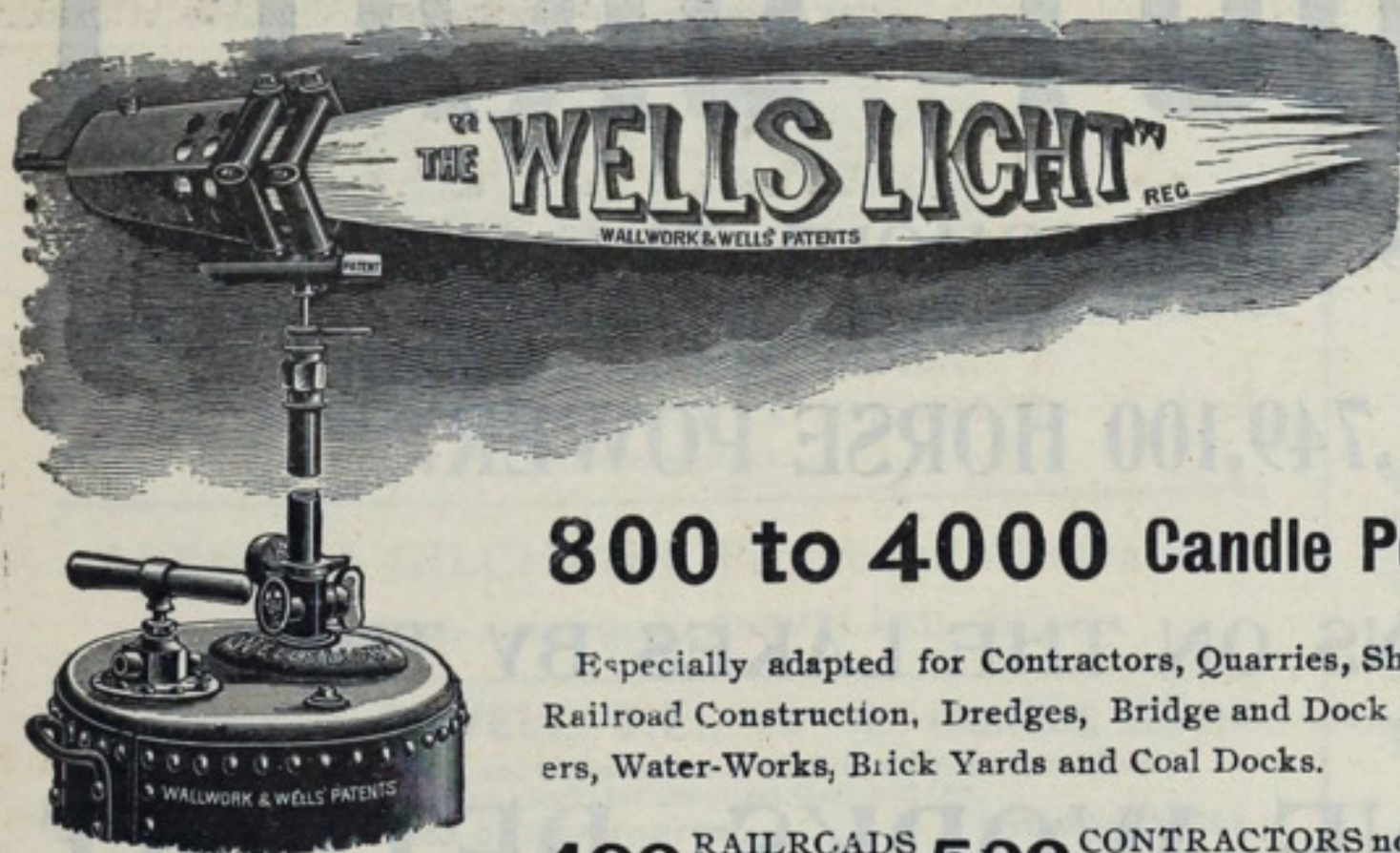
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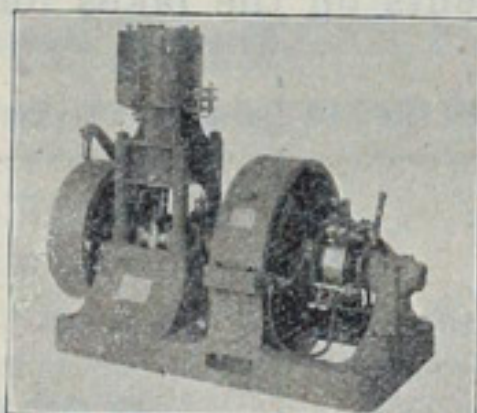
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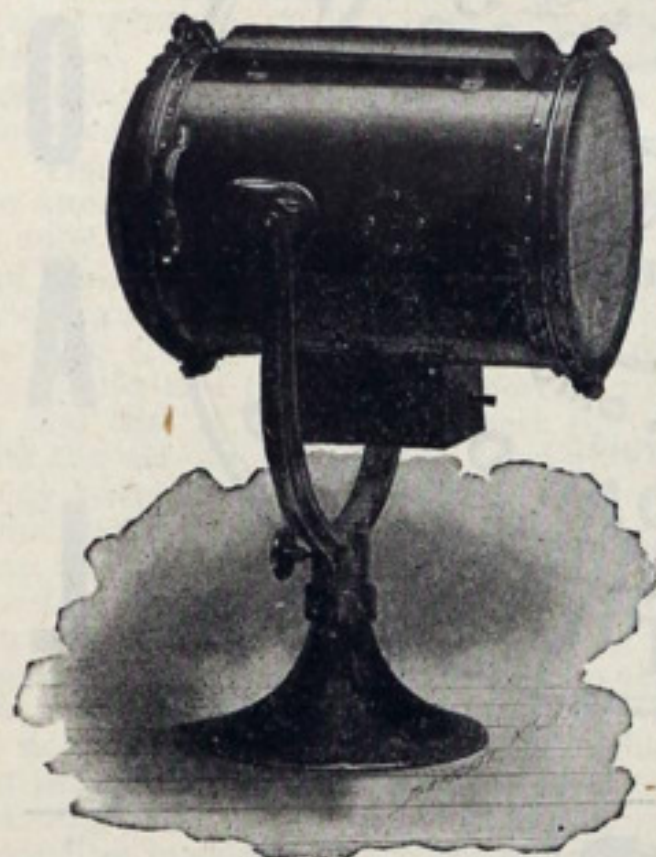
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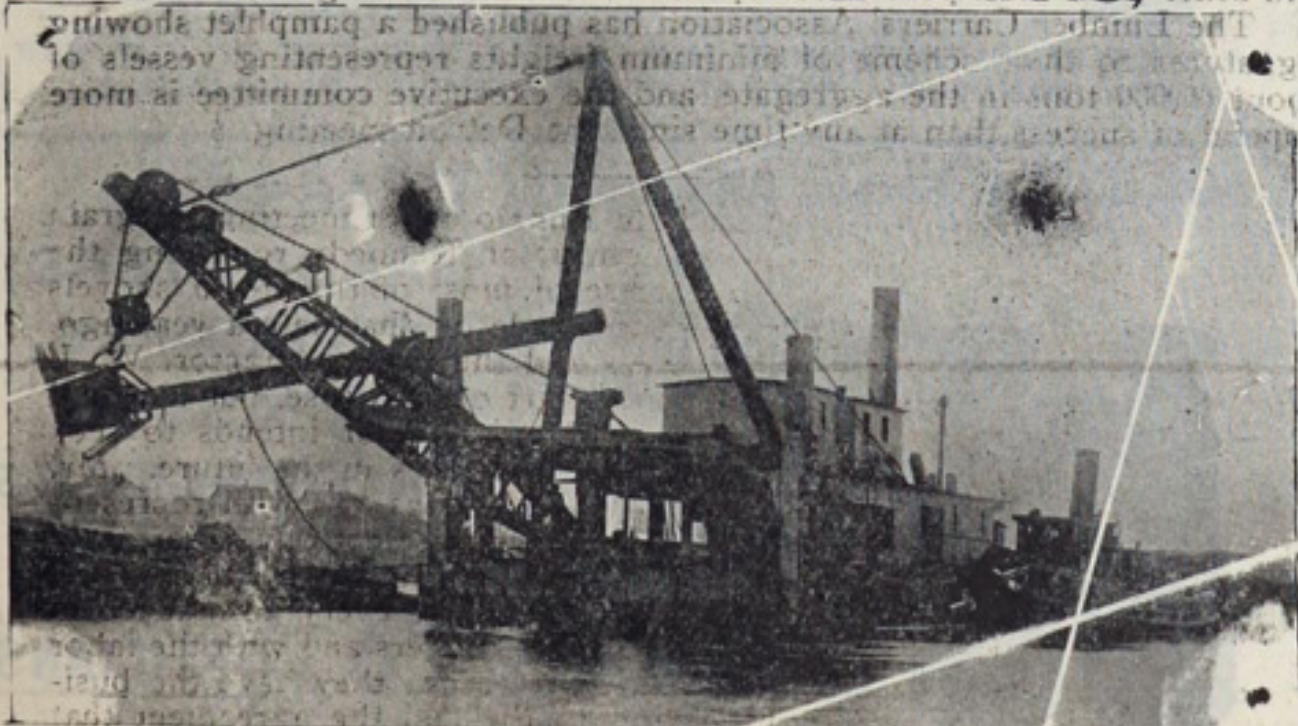
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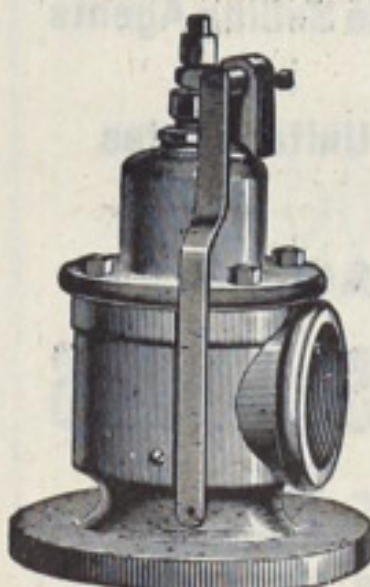
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